PRACTICAL OBSERVATIONS

ON THE

UTERINE HEMORRHAGE;

WITH

REMARKS

ON THE

MANAGEMENT OF THE PLACENTA.

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THE

FOLLOWING PAGES

ARE MOST RESPECTFULLY DEDICATED,

AS A SMALL

TESTIMONY OF THE ESTEEM

WHICH THE AUTHOR ENTERTAINS

FOR HIS

PROFESSIONAL ABILITIES,

AND FOR HIS

PRIVATE FRIENDSHIP.

PRACTICAL OBSERVATIONS,

&c.

Of all the accidents to which a pregnant woman is exposed, none is more alarming or troublesome than uterine hemorrhage, when it occurs in the advanced stages of gestation, or after the delivery of the child. This, from its extent and impetuosity, has aptly been called a flooding; and, from the frequency of its occurrence, it must be extremely interesting to every practitioner.

The ovum is connected to the uterus by means of a vast multitude of delicate vessels, which pass almost at every point from the one to the other. These vessels are large where the placenta is attached; smaller where they pass into the decidua.

As the ovum corresponds exactly to the inner surface of the uterus, and is in close and intimate contact with it, we find that as long as this union subsists, the vessels, notwithstanding their delicacy, are enabled to transmit blood without effusion. But whenever a separation of the one from the other takes place, then these vessels are either directly torn; or, even supposing them to extend a little, they must be ruptured by their own action; or, by the force of the blood which they receive and circulate.

When this happens, an extravasation or discharge must be the consequence, which will be greater or smaller in proportion to the number and magnitude of the vessels which have given way, and the strength of the action, which exists in the sanguiferous system.

The membranes are never so full of water as to be put upon the stretch, and therefore they cannot forcibly distend the womb, and make pressure on its inner surface. The womb again, during gestation, does not embrace the membranes tightly, so as to compress them. Hence it is evident, that when rupture first takes place, no resistance can, by the action of the one upon the other, be afforded to the flow of the blood. The consequence of uterine hemorrhage, when considerable, is, that the force of

the circulation is diminished; faintness or absolute syncope being induced. The blood in this state flows more feebly. Coagulation is allowed to take place, and the paroxysm is for the present ended. Re-union, however, when the separation is extensive, and the coagulum considerable, cannot be expected to take place; and therefore, when the clot loosens, a return of the hemorrhage is in general to be looked for.

One or more copious discharges of blood must injure the functions of the uterus, and ultimately destroy altogether the action of gestation. This tends to excite the muscular action of the uterine fibres; and by their contraction two effects will be produced. The uterine vessels will be diminished in their diameter or capacity, and the whole surface of the

womb pressing more strongly upon the ovum, a greater resistance will be given to the flow of the blood.

Thus it appears, that nature attempts to save the patient in two ways. First, by the induction of a state of faintness, or sometimes of complete syncope, which tends to check the present attack. Secondly, when the hemorrhage is so great or obstinate as to prevent any possibility of the woman going safely to the full time, such effects are produced as tend to establish muscular contraction, and accelerate expulsion. This double process ought, in all our reasonings, to be held in view.

Uterine contraction is of two kinds, which may be called permanent and temporary. The permanent is that continued action of the individual fibres by

which the uterus is rendered tense, so that it feels hard if the hand be introduced into its cavity. The temporary is that greater contraction which is excited at intervals for the expulsion of the fœtus, producing what are called the pains of labour.

In those cases where nature effects a cure by expulsion, or the production of labour, it is chiefly to the permanent or tonic contraction that we are indebted for the stoppage of hemorrhage; because this contraction lessens the size of the vessels, and keeps up a firm pressure of the uterine surface upon the ovum, until the pains have accomplished the expulsion or delivery of the child. The pains alone could not do this good, for coming only at intervals, their effect would be fugacious. On the other

hand, the permanent contraction would not be adequate to the purpose without the pains for these temporary paroxysms excite this action to a stronger degree, and by ultimately forcing down the child, accomplish delivery before the powers of the uterus be worn out.

Such are the steps by which the patient is naturally saved. But we are not to expect that these shall in every instance, or in a majority of instances, take place at the proper time, or in the due degree. The debility and syncope may go too far, or the clots may not form in proper time, or may come away too soon, or too easily. The action of gestation may continue, notwithstanding the violence of the hemorrhage. Thus preventing the accession of muscular contraction, or before this con-

traction be established and the child expelled, the discharge may have been so great and constant as to render the efforts of the womb weak and inefficient; and by still continuing, may destroy them altogether.

These circumstances being considered, it will be evident, that although when the injury is small, and the discharge trifling, nature may permanently check it; or, in more serious cases, may preserve the woman by the expulsion of the child; yet we cannot, with prudence, place our whole reliance on her unassisted operations.

There is also another circumstance relating to a particular species of flooding, which renders the accomplishment of a natural cure or escape still more

doubtful. This is, that the placenta is sometimes attached to the os uteri, which necessarily must produce a hemorrhage whenever the cervix comes to be fully developed, and the mouth to open.

The vessels going to the placenta are much larger than those which enter the decidua; and therefore, if part of the placenta be detached, the quantity and velocity of the discharge must be greater, and the effects more to be dreaded, than when a part of the decidua alone is separated. If the placenta be fixed near the cervix uteri, and a part of it be detached, then the blood which is effused will separate the membranes down to the os uteri, and a profuse hemorrhage will appear. But sometimes if it be fixed to the fundus uteri, the blood may be con-

fined, especially if the separation have been trifling, and a coagulum will be formed exterior to the membranes; the lower part of which will still adhere to the uterus; or if the central portion of the placenta have been detached, a collection of blood may be formed behind it, but may not extend beyond its circular margin*. But if the placenta be placed over the os uteri, then the case is different, profuse discharge will take place, sinking the whole system, and

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* An important case of this kind is related by Albinus. Vide Acad. Annot. lib. i. p. 56. Some cases are also mentioned by M. Baudelocque. In one of these the womb was considerably distended. Afterwads slight pains came on, some clots were discharged, and the woman became very weak: she was then delivered without success. Vide System. &c. part iii. chap. i.

very much enfeebling the uterus itself, so that when uterine contraction does come on, it will be weak, and incapable of speedily effecting expulsion, even although the contraction should be brisk and powerful, it cannot, owing to the structure of the placenta, do the same good as in other cases of flooding; and therefore, in every instance, much blood will be lost, and in many, in very many, the patient, if we trust to this contraction alone, will perish. The cells of the placenta communicate with each other, and blood sent into it at one part by the uterine vessels, may escape by that part which is over the os uteri, and which being separated from it, is consequently unsupported. Contraction can only be expected in this case to do good, when it is powerful, and the pains come on so briskly as speedily to empty the uterus

at the same time that coagula shut the mouths of the placental vessels at the unsupported part.

It has been a common opinion, that flooding proceeded always from the detachment of part of the placenta; but this point is not established*. In several cases of uterine hemorrhage, the

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* Long ago, Andrea Pasta questioned the opinion, that flooding was always produced by separation of the placenta. Vide Discorso del flusso di sangue, &c. We are not, however, to suppose that hæmorrhage does not proceed fron detachment of the placenta in any instance when it is placed high up, but only that it is a rare occurrence. When the stream is rapid and profuse, we have every reason to suppose that part of the placenta is separated; but if we have occasion to deliver, it will generally be found that it is placed close by the cervix uteri, or at least not very far from it.

placenta will be found attached to the fundus uteri; and we cannot suppose that in all of these, the whole extent of the membranes, from the placenta to the os uteri, has been separated: yet this must happen before discharge can in these circumstances appear. We can often account for the hemorrhage, by supposing a portion of the decidua to be detached; and we know that the vessels about the cervix are sufficiently able to throw out a considerable quantity of blood, if their mouths be opened.

OF THE

CAUSES OF UTERINE HEMORRHAGY.

Let us next consider the causes* giving rise to hemorrhage in various degrees; and the first which I shall mention is external violence, producing a separation of part of the ovum. As the ovum and uterus correspond exactly to each other, and are in the advanced stages of gestation, composed of pretty pliable materials, falls or blows will not

* I purposely exclude, at present, the consideration of all those hemorrhages, arising from polypi or other diseases of the uterus. I mention this to put the student on his guard against those discharges, and to advise him to attend to the proper diagnostics.

produce laceration so frequently as might be supposed. In a majority of instances the effect is produced chiefly by the operation on the vessels, their action being violently and suddenly excited, and rupture of their coats thus produced. When the ovum is mechanically detached, the injury must have been considerable, and in general the fœtus is destroyed.

Secondly. Fatigue, or much exertion, may, upon principles which I have noticed in another publication*, injure the action of the uterus, and give rise to premature expulsion, which in this case is generally attended with considerable discharge. Such exertions are likewise

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* Vide Observations on Abortion.—Longman and Co. 1806.

apt, by their effect on the circulation, to operate on the vessels passing to the ovum, and produce in them a greater degree of activity than they are capable of sustaining without rupture. It is, therefore, very properly laid down as a rule of practice, to forbid pregnant women to undergo much fatigue, or exert any great muscular action; and wherever this rule has been departed from, especially by a patient of an irritable or of a plethoric habit, it behoves the practitioner to attend carefully to the first appearances of injury, or to the first symptoms of decay in the uterine action. Rest, and an opiate will upon general principles be indicated, and when the circulation is affected, or we apprehend increased action about the uterine vessels, venesection must be premised, and the patient kept cool and tranquil.

Violent straining at stool, or strong exertions of the abdomenal muscles, made in lifting heavy bodies, or in stretching to a height, or frequent and continued stooping, may all by compressing the womb, cause separation. For the greatest effect will be produccd where the resistance is least, or the support smallest, which is at the under part of the uterus, and there rupture will be apt to take place.

Thirdly. A preternatural degree of action in the vessels going to the placenta or decidua, must be dangerous, and likely to produce rupture and extravasation. This may either be connected with a general state of the vascular system, marked by plethora, or by arterial irritation; or it may be more immedi-

ately dependent on the state of the uterus itself.

When the woman is plethoric, or when the action of the vascular system is increased, it is natural to suppose that the effect will be greatest on those parts of the womb which are in the highest state of activity. These are chiefly two: the part to which the placenta is attached, for there the vessels are large and numerous; and the cervix and os uteri because there the greatest changes are going forward. At one or other of these two places, rupture is most likely to take place, and it will happen still more readily if the placenta be attached at or near to the cervix. It may be excited either by too much blood circulating permanently in the system, or by a temporary increase of the strength and

velocity of the circulation produced by passion, agitation, stimulants, &c. A plethoric state is a frequent cause of hemorrhage in the young, the vigorous, and the active: the decidua is separated, and a considerable quantity of blood flows; perhaps the placenta is detached, and the hemorrhage is more alarming. In some cases the rupture is preceded by spitting of blood, or bleeding at the nose, and in these cases the lancet may be of much service.

We sometimes find that extravasation is produced by an increased action of the uterine vessels themselves existing as a local disease. In this case, the patient for some time before the attack, feels a weight and uneasy sensation about the hypogastric region, with slight darting pains about the belly or back.

These precursors have generally been ascribed to a different cause; namely, rigidity of the ligaments of the womb, or of the fibres of the uterus itself.

IV. A want of correspondence betwixt the action of the uterus and the ovum, or a disproportion in the relative strength of their vessels may produce rupture; for if the connecting vessels be unable easily to bear the transmission of blood from the uterus, it is evident that any slight irregularity, or increase of the force of the blood must destroy the parts.

V. Spasmodic action about the os uteri must produce a separation of the connecting vessels. The causes giving rise to this in the advanced period of gestation, are not always obvious, nei-

ther can we readily determine the precise cases in which this action excites flooding. We should expect that the discharge ought always to be preceded by pain, but we know that motion may take place in some instances about the os uteri without much sensation; and on the other hand, many cases of flooding not dependent on motion of the uterine fibres, are attended with uneasiness or irregular pain about the abdomen. This spasmodic action is not unfrequently produced by hanging pregnant animals.

VI. Whatever stops prematurely, the action of gestation may give rise to a greater or less degree of hemorrhage. For in this case the development of the cervix takes place quickly, and the ovum must be separated. The quantity of

the discharge* will depend upon the state of the circulation—the magnitude of the vessels which are torn—the contraction of the uterus—and the care which is taken of the patient. Hence it follows as a rule in every premature labour, more especially in its first stage, that we prevent all exertion, refrain from the use of stimulants, and confine the patient to a recumbent posture.

It sometimes happens that effective contraction does not take place speedily

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* In those cases where the contraction becomes universal and effective, we have little discharge, and the patient is merely said to have a premature labour; but if the contraction be partial, and do not soon become effective, then we have considerable discharge, and the patient is said to have a flooding.

after the action of gestation ceases, but a discharge appears. This may stop by the induction of syncope, or the formation of clots. The blood which is retained about the cervix and os uteri putrifying, produces a very offensive smell. Milk is secreted as if delivery had taken place, and sometimes fever is excited. In this state the patient may remain for some days, when the hæmorrhage is renewed, and the patient may be lost if we do not interfere.

VII. Some undue state of action about the os uteri, removing, or ceasing to form that jelly which naturally ought to be secreted there.

This is generally productive of a discharge of watery fluid, tinged with blood; and if the patient be not careful,

pure blood may be thrown out in considerable quantity. It may even happen that the hæmorrhage, under certain circumstances, may prove fatal; and yet, upon dissection, no separation of the ovum be discovered, the discharge taking place from the vessels about the os uteri itself*.

VIII. In some instances, where a portion of the placenta has been detached, I have observed that near the separated part, the structure of the placenta was morbid, being hard and gristly. In these cases I could not detect any other cause of separation, and suppose that by the accidental pressure of the child upon

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* Vide a case in point, by M. Heinigke, in the first volume of Brewer's Biblioth. Germ.

the indurated part, the uterus may have been irritated.

IX. The insertion of the placenta over the os uteri *, may give rise to flooding in different ways.

The uterus and placenta may remain in contact until the term of natural la-

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* So far as I have observed uterine hemorrhage, when profuse is produced, most frequently by this cause; at least, two thirds of those cases requiring delivery, proceed, I think, from the presentation of the placenta; and in the majority of the remaining third, it will be found attached near to the cervix. Most of those hemorrhages which are cured without delivery, proceed from the detachment of the decidua alone, or of a very small portion of the placenta, which has been separated under circumstances favourable for firm coagulation.

bour, the one adapting itself to the other; but whenever the os uteri begins to dilate, separation and consequent hemorrhage must take place.

It is rare, however, for the accident to be postponed so long. In general, at an earlier period, in the eighth month, for instance, we find that either the uterus and placenta no longer grow equally; in consequence of which, the fibres about the os uteri are irritated to act, or so much blood as must necessarily, in this situation, circulate about the cervix uteri, interferes with its regular actions, and induces premature contraction of its fibres, with a consequent separation of the connecting vessels.

In order to ascertain whether the hemorrhage proceed from this cause, we

ought, in every case to which we are called, carefully to examine our patient. The introduction of the finger is often sufficient for this purpose, but sometimes it may be necessary to carry the whole hand into the vagina.

If the placenta prevent, we shall feel the lower part of the uterus thicker than usual, and the child cannot be so distinctly perceived to rest upon it. This is ascertained by pressing with the finger on the fore part of the cervix, betwixt the os uteri and bladder, and also a little to either side*.

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* When a large coagulum occupies the lower part of the uterus, we may be deceived if we trust to external feeling alone, without introducing the finger within the os uteri. If the uterus have its usual

If the os uteri be a little open, then by insinuating the finger, and carrying it through the small clots, we may readily ascertain whether the placenta or membranes present, by attending to the difference which exists betwixt them. But in this examination, we must recollect that only a small portion of the edge of the placenta may present, and this may not readily be felt at first.

To conclude this section, I remark in general, that hemorrhage from the uterus is not merely arterial, but also veinous, and the orifices of these latter vessels are extremely large. Almost

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feel, and the child be felt distinctly through it, then we are sure that, however near the placenta may be to the os uteri, it is not fixed over it.

immediately after conception, the veins enlarge and dilate, contributing greatly to give to the uterus the doughy feel which it possesses. In the end of gestation, the sinuses are of immense size, and their extremities so large, that in many places they will admit the point of the finger. Now, as all the veins communicate more freely than the arteries, and as they have in the uterus no valves, we can easily conceive the rapidity with which discharge will take place, and the necessity of encouraging coagulation, which checks veinous still more readily than arterial hemorrhage.

OF THE

EFFECTS OF UTERINE HEMORRHAGE.

In whatever way flooding is produced, it has a tendency to injure or distress gestation, and to excite expulsion; but these effects may be very slowly accomplished, and in a great many instances may not take place in time to save the patient or her child. Having already noticed these changes produced on the womb itself by hemorrhage, and the danger of trusting to them for the recovery of the patient, I will not recapitulate, but proceed very shortly to mention the effects produced on the system at large.

During the continuance of the hemorrhage, or by the repetition of the paroxysms, certain alterations highly important are taking place. There is much less blood circulating than formerly; and this blood, when the hemorrhage has been frequently renewed, is less stimulating in its properties, and less capable of affording energy to the brain and nerves.

The consequence of this is, that all the actions of the system must be performed more languidly, and with less strength. The body is much more irritable than formerly, and slight impressions produce greater effects. This gives rise to many hysterical, and sometimes even to convulsive affections.

The stomach cannot so readily digest

the food—the intestines become more sluggish—the heat beats more feebly—the arteries act with little force—the muscular fibre contracts weakly—the whole system descends in the scale of action, and must, if the expression be allowable, move in an inferior sphere.

In this state, very slight additional injury will sink the system irreparably—very trifling causes will unhinge its actions, and render them irregular. If the debility be carried to a degree farther, no care can recruit the system—no means can renew the vigor of the uterus. We may stop the hemorrhage, but recovery will not take place. We may deliver the child, but the womb will not contract. If when the system is debilitated by hemorrhage, some irritation be conjoined, then the vascular action becomes

more or less irregular, and an approximation is made to a state of fever. The pulse is feeble, but sharp; the skin rather warm; and the tongue more or less parched. This state is dangerous, both as it exhausts still more a system already very feeble, and also as it tends to renew the hemorrhage. It will often be found to depend upon slight uterine irritation, upon accumulation in the bowels, upon pulmonic affections, upon muscular pain, or upon the injudicious application of stimuli.

Such organs as have been previously disposed to disease, or have been directly or indirectly injured during the continuance of protracted flooding, may come to excite irritation, and give considerable trouble.

An acute attack of hemorrhage gene-

rally leaves the patient in a state of simple weakness; but if the discharge be allowed to be frequently renewed, and the case thus protracted, some irritation often comes to be conjoined, which adds to the danger, and excites, if the patient be not delivered, more speedy returns.

OF THE PROGNOSIS.

We may lay it down as a general observation, that few cases of profuse hemorrhage, occurring in an advanced stage of gestation, can be cured without delivery or the expulsion of the child. For when the discharge is copious or

obstinate, the placenta is generally separated, sometimes to a very considerable extent, and a re-union, without which the woman can never be secure against another attack, can rarely be expected. If the placenta present, the hemorrhage, although suspended, will yet to a certainty return, and few will survive if the child be not delivered.

But in those cases where only a portion of the decidua, or a little bit of the margin of the placenta* has been detached, and the communicating vessels opened, either by a state of over action

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* In this case, after labour is over, we may discover the separated portion by the difference of colour; it is generally browner and softer than the rest.

in the vascular system, or by too much blood in the vessels, or by some mechanical exertion; then if proper care be taken, the hemorrhage may be completely and permanently checked, or if it should return, it may be kept so much under, or may consist so much of watery discharge from the glands about the os uteri, as neither to interfere with gestation, nor injure the constitution; yet it is to be recollected, that even these cases of flooding may sometimes proceed to a dangerous degree, requiring very active and decided means to be used; and in no case can the patient be considered as safe, unless the utmost care and attention be paid to her conduct.

It would thus appear, that some hemorrhagies almost inevitably end either in the delivery of the child, or the death

of the parent; whilst others may be checked or moderated without an operation. A precise diagnostic line, liable to no exceptions, cannot be drawn betwixt those cases; and, therefore, whilst we believe that rapid and profuse hemorrhagies, which indicate the rupture of large vessels, can seldom be permanently checked, we still, provided the placenta do not present, are not altogether without hopes of that termination which is more desirable for the mother, and safer for the child, than premature delivery. In slighter cases, our hope is joined with some degree of confidence.

A second attack, especially if it follow soon after the first, and from a slight cause, greatly diminishes the hope of carrying the woman to a happy conclusion without manual interference.

In forming our opinion respecting the immediate danger of the patient, we must consider her habit of body, and the previous state of her constitution. We must attend to the state of the pulse, connecting that in our mind with the quantity and rapidity of the discharge.

A feeble pulse, with a hemorrhage, moderate in regard to quantity and velocity, will, if the patient have been previously in good health, generally be found to depend on some cause, the continuance of which is only temporary.

But when the weakness of the pulse proceeds from profuse or repeated hemorrhage, then although it may sometimes be rendered still more feeble by oppression, or feeling of sinking at the stomach; yet, when this is relieved, it

does not become firm. It is easily compressed, and easily stopped by motion; or, sometimes, even by raising the head.

If the paroxysm is to prove fatal, the debility increases—the pulse flutters—the whole body becomes cold and clammy—the breathing is performed with a sigh—and syncope closes the scene.

If irritation be conjoined with hemorrhage, then the pulse is sharper, and, although death be near, it is felt more distinctly than when irritation is absent.

The termination in this case is often more sudden than a person, unacquainted with the effect of pain or irritation on the pulse, would suppose. For when the pulsation is distinct, and even appa-

rently somewhat firm, a slight increase of the discharge, or sometimes an exertion without discharge, speedily stops it, the heat departs, and the patient never gets the better of the attack.

We must likewise remember, that a discharge, which takes place gradually, can be better sustained than a smaller quantity, which flows more rapidly. For the vessels in the former case come to be accustomed to the change, and are able more easily to accommodate themselves to the decreased quantity. But when blood is lost rapidly, then very speedy and universal contraction is required in the vascular system, in order that it may adjust itself to its contents, and this is always a debilitating process. The difference too betwixt the former and the present condition of the body, is

rapidly produced, and has the same bad effect as if we were instantly to put a free liver upon a very low and abstemious diet.

In all cases of flooding, we find that during the paroxysm, the pulse flags, and the person becomes faint. Complete syncope may even take place, but this in many cases is more dependent on sickness or oppression at the stomach, than on direct loss of blood. In delicate and irritable habits, the number of fainting fits may be great, but unless the patient be much exhausted, we generally find that the pulse returns, and the strength recruits. The prognosis here must depend greatly on the quantity and velocity of the discharge; for it may happen, that the first attack of hemorrhage may produce a syncope, from

which the patient is never to recover.

OF THE

TREATMENT OF UTERINE HEMORRHAGE.

When we are called to a patient recently attacked with flooding, our most obvious duty is immediately to restrain the violence of the discharge; after which we can take such measures as the nature of the case may demand, either for preserving gestation, or for hastening the expulsion of the child.

A state of absolute rest, in a horizontal posture, is to be enforced with great

perseverance, as the first rule of practice. By rest alone, without any other assistance, some hemorrhagies may be cured; but, without it, no woman can be safe. Even after the immediate alarm of the attack is over, the woman must still recollect her danger. She should be confined to bed, upon a firm matrass, for several days, and ought not to leave her apartment for a much longer period.

In general, the patient has gone to bed before we are called; and, perhaps, by the time that we arrive, the bleeding has in a great measure ceased. The partial unloading of the vessels, produced by the rupture, the induction of a state approaching to syncope in consequence of the discharge, the fear of the patient, and a horizontal posture, may all have conspired to stop the hemorrhage.

The immediate alarm from the flooding having subsided, the patient often expresses herself as more apprehensive of a premature labour, than of the hemorrhage, which she considers as over. If the attack have been accompanied with slight abdominal pain, her fears are confirmed. But we are not to enter into these views of the case; we are to consider the discharge as the prominent symptom, as the chief source of danger. We are to look upon the present abatement as an uncertain calm; and whatever advice we may give, whatever remedies we may employ, we are not to leave our patient until we have strongly enforced on her attendants the danger of neglect, and the necessity of giving early intimation should the hemorrhage be renewed. There is no disease to which the practitioner can be called, in

which he has greater responsibility than in uterine hemorrhage. The most prompt and decided means must be used; the most patient attention must be bestowed; and, whenever he undertakes the management of a case of this kind, whatever be the situation of the patient, he must watch her with constancy, and forget all consideration of gain and of trouble. His own reputation, his peace of mind, the life of his patient, and that of her child, are all at stake. I am doing the student the most essential service, when I earnestly press upon his attention these considerations. And when I intreat, implore him to weigh well the proper practice to be pursued, the necessary care to be bestowed, I am pleading for the existence of his patient, and for his own honour and happiness. Procrastination,

irresolution, or timidity, have hurried innumerable victims to the grave; whilst the rash precipitation of unfeeling men has only been less fatal, because negligence is more common than activity.

I shall endeavour to point out the proper treatment in the commencement of uterine hemorrhage, and the best method of terminating the case when the patient cannot be conducted with safety to the full time.

After the patient is laid in bed, it is next to be considered how the hemorrhage is to be directly restrained, and whether we may be able to prevent a return. It is at all times proper to ascertain exactly the situation of the patient by examination, as we then learn the state of the cervix and os uteri;

and whether there be any tendency to labour; whether the discharge be stopped by a coagulum in the mouths of the vessels*, or by a large clot in the upper part of the vagina; whether the placenta be attached to os uteri, or whether the membranes present. We likewise endeavour to ascertain the quantity of blood which has been lost—the rapidity with which it flowed—the effect which it has produced upon the mother or child—and the cause which appeared to excite the hemorrhage.

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* We may conjecture that this is the case, if we find no clot in the vagina, plugging the os uteri. We are not warranted to thrust the finger forcibly within the os uteri, in this examination; or to rub away the small coagula which may be formed within it, and which may be restraining the hemorrhage.

The first remedy which, upon a general principle, offers itself to our attention, is blood letting. In those cases, where the attack has been produced by over action of the vessels, or a plethoric condition; or where it seems to be kept up by those causes, this remedy employed early, and followed by other means, may be effectual not only in checking the present paroxysm, but also in preventing a return. By the timely and decided use of the lancet, much distress may be avoided, and both the mother and the child may be saved from danger. But we are not to apply the remedy for one state to every condition; we must have regard to the cause, and consider how far the hemorrhage is kept up by plenitude or morbid activity of the vessels. In those cases where the attack is not excited by, or connected with ple-

thora, or undue action in the vascular system, venesection is not indicated. We have in these cases, which are, I believe, by far the most numerous, other means of safety, and powerfully moderating vascular action, without the detraction of blood, which in this disease ought to be a leading principle to save as much as possible. Whatever lessens materially or suddenly the quantity of blood, must directly enfeeble, and call for a new supply, otherwise the system suffers for a long time.

We shall find, that except under those particular circumstances which I have specified, and where we have ground to believe, that the rupture of vessels has been dependent on their plenitude or over action, the circulation may be speedily moderated, by other means, and es-

pecially by the application of cold. This is to be made not only by applying cloths dipped in cold water to the back and vulva, but also by sponging over the legs, arms, and even the trunk, with any cold fluid; covering the patient only very lightly with cloaths, and promoting a free circulation of cold air, until the effect upon the vessels be produced. After this we shall find no advantage, but rather harm, from the further application of cold. All that is now necessary, is strictly and constantly to watch against the application of heat, that is, raising the temperature above the natural standard.

The extent to which this cooling plan is to be carried, must depend upon circumstances. In a first attack, it is in general to be used in all its vigour; but

where the discharge, either towards the end of this attack, or in a subsequent paroxysm, has gone so far as to reduce the heat much below the natural standard, the vigorous application of cold might sink the system too much. In some urgent cases it may even be necessary to depart from our general rule, and apply warm cloths to the hands, feet, and stomach. This is the case where the discharge has been excessive, and been suffered to continue profuse or for a long time, and where we are afraid that the system is sinking fast, and the powers of life giving way. There are cases in which some nicety is required in determining this point, and in those circumstances we must never leave our patient, but must watch the effects of our practice. This is a general rule in all hemorrhagies, whatever their cause

may have been, or from whatever vessel the blood may come.

A cold skin and a feeble pulse never can require the positive and vigorous application of cold; but, on the other hand, they do not indicate the application of heat, unless they be increasing, and the strength declining. Then we cautiously use heat to preserve what remains, not rashly and speedily to increase action beyond the present state of power.

When an artery is divided, it is now the practice to trust for a cure of the hemorrhage to compression, applied by a ligature. We cannot, however, apply pressure directly and mechanically to the uterine vessels, but we can promote coagulation, which has the same imme-

diate effect. Rest and cold are favourable to this process, but ought only in slight cases to be trusted to alone. In this country it has been the practice to depend very much upon the application to the back or vulva, of cloths dipped in a cold fluid, generally water, or vinegar and water: but these are not always effectual, and sometimes, from the state of the patient, are not admissible.

Plugging the vagina with a soft handkerchief*, answers every purpose which

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* The insertion of a small piece of ice in the first fold of the napkin, is attended with great advantage, and has often a very powerful effect. Dr. Hoffman employed the introduction of lint dipped in solution of vitriol; but this was rather as an astringent than a plug; but he does not propose it as

can be expected from them; and whenever a discharge takes place to such a degree as to be called a flooding, or lasts beyond a very short time, this ought to be resorted to. The advantage is so great and speedy, that I am surprised that it ever should be neglected. I grant that some women may, from delicacy or other motives, be averse from it; but every consideration must yield to that of safety: and it should be impressed deeply on the mind of the patient as well as of the practitioner, that blood is most precious, and not a drop

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a general practice. He considers that he was obliged to have recourse ad anceps & extremum auxilium, opera omnia, t. iv. Leroux employed the plug more freely.—Vide Observations sur les portes, 1776.

should be spilled which can be pre-served.

Unless the flooding shall in the first attack be permanently checked, which when the separated vessels are large or numerous, is rarely accomplished, we may expect one or more returns before expulsion can be accomplished. The more blood then that we allow to be lost at first, the less able will the patient be to support the course of the disease, and the more unfavourable will delivery, when it comes to be performed, prove to her and to the child. It is of consequence to shorten the paroxysm as much as possible, and therefore when circumstances will permit, we should make it a rule to have from the first a careful nurse, who may be instructed in our absence to use the napkin with-

out delay, should the hemorrhage return.

But whilst I so highly commend, and so strongly urge the use of the plug, I do not wish to recommend it to the neglect of other means, or in every situation. In the early attacks of hemorrhage, when the os uteri is firm, and manual interference is improper, I know of no method more safe or more effectual for restraining the hemorrhage and preserving the patient. But when the hemorrhage has been profuse, or frequently repeated, and the circumstances of the patient demand more active practice, and point out the necessity of delivery, then the use of the plug cannot be proper if trusted to, it may be attended with fatal and deceitful effects. We can indeed restrain the hemorrhage from

appearing outwardly, but there have been instances, and these instances ought to be constantly remembered, where the blood has collected within the uterus, which having lost all power, has become relaxed, and been slowly enlarged with coagula; the strength has decreased—the bowels become inflated—the belly swelled beyond its size in the ninth month*, although the patient may not have been near that period; and in these circumstances, whilst an inattentive practitioner has perhaps concluded that all was well with regard to the hemorrhage, the patient has expired, or only lived long enough to permit the child to be extricated. All practical

* Vide Elements of Midwifery, by M. Boudeloque, tom. 2.

writers warn us against internal flooding, nay, so far do some carry their apprehension, that they advise us to raise the head of the child, and observe whether blood or liquor amnii be discharged*, an advice, however, to which I cannot subscribe, because in those cases where the membranes have given way, or been opened, the head cannot be thus moveable, nor these trials made unless we have waited until a dangerous relaxation has taken place in the uterine fibres; and if, on the other hand, we have delivery in contemplation, it is our object to confine the liquor amnii as

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* Vide Dr. Johnson's System of Midwifery, p. 157; and Dr. Leak's Diseases of Women, vol. 2. p. 280.

much as possible, until we turn the child.

Such are the most effectual methods of speedily or immediately stopping the violence of the hemorrhage. The next points for consideration are, whether we can expect to carry the patient safely to the full time, and by what means we are to prevent a renewal of the discharge.

It may, I believe, be laid down as a general rule, that when a considerable portion of the decidua has in the seventh month, or later, been separated, the hemorrhage, although it may be checked, is apt to return. When a part of the placenta has been detached, and more especially if that organ be fixed over the os uteri, gestation cannot continue long

for either such injury is done to the uterus as produces expulsion and a natural cure, or the woman bleeds to death, or we must deliver in order to prevent that dreadful termination.

If the discharge be in small quantity, and have not flowed with much rapidity—if it stop soon or easily—if no large clots are formed in the vagina—if the under part of the uterus has its usual feel, shewing that the placenta is not attached there, and that no large coagula are retained within the os uteri—if the child be still alive—if there be no indication of the accession of labour—and if the slight discharge which is still coming away, be chiefly watery, we may in these circumstances conclude that the vessels which have given way are not very large, and have some rea-

son to expect that by care and prudent conduct, the full period of gestation may be accomplished. It is difficult to say whether in this event the uterus forms new vessels to supply the place of those which have been torn, and whether re-union be effected by the incorporation of these with corresponding vessels from the chorion. In a case of abortion, we know that re-union takes place; but when in the advanced period of pregnancy, the decidua has become very thin, soft, and almost gelatinous. It is not established that the circulation may be renewed. At all events, we know that the power of recovery or reparation is very limited, and can only be excited when the injury is not extensive. The means for promoting re-union of the uterus and decidua, are the same with those which we employ for preventing

a return of the hemorrhage, and there we advise, even when we have little hope of effecting re-union, and making the patient to go to the full time, because it is our object to prevent as much as possible the loss of blood.

When the placenta is partly separated, all the facts of which we are in possession are against the opinion that re-union can take place. If the spot be very trifling, and the vessels not large, we may have no return of the bleeding; a small coagulum may permanently restrain it; but if the separation be greater, and the placenta attached low down, or over the os uteri, the patient cannot go to the full time, unless that be very near its completion. We judge of the case by the profusion and violence of the discharge, for all great hemorrhagies

proceed from the separation of the placenta, and by the feel of the lower part of the uterus, by the quantity of clots, and the obstinacy of the discharge, which may perhaps require even actual syncope to stop the paroxysm.

The best way in which we can prevent a return, is by moderating the circulation, and keeping down the actions of the system to a proper level with the power. The propriety of attending to this rule will appear, if we consider among other circumstances, that when a person has had an attack of flooding, a surprise, or any agitation which can give a temporary acceleration to the circulation, will often renew the discharge. The action of the arteries depends very much upon that of the heart, and the action of this organ again is dependant on

the blood. When much blood is lost, the heart is feebly excited to contraction, and in some cases it beats with no more force than is barely sufficient to empty itself. This evidently lessens the risk of a renewal of the bleeding; and in several cases, as for example, in hemoptysis, we, by suddenly detracting a quantity of blood, speedily excite this state of the heart. Whatever tends to rouse the action of the heart, tends to renew hemorrhage; and if the proposition be established that the rapidity with which the strength and action of the vessels are diminished, is much influenced by the rapidity with which a stimulus is withdrawn, the converse is also true, and we should find, were it practicable to restore the quantity of blood as quickly as it has been taken away, that the same effect would be pro-

duced on the action of the heart as if a person had taken a liberal dose of wine.

It has been the practice to give nourishing diet to restore the quantity of blood ; but until the ruptured vessels be closed, or the tendency to hemorrhage stopped, this must be hurtful. It is our anxious wish to prevent the loss of blood, but it does not thence follow that when it is lost we should wish rapidly to restore it. This is against every principle of sound pathology, but it is supported by the prejudices of those who do not reflect, or who are ignorant of the matter. When a person is reduced by flooding, even to a slight degree, taking much food into the stomach, gives considerable irritation ; and, if much blood be made, vascular action must be

increased. What is it which stops the flow of blood, or prevents for a time its repetition? Is it not diminished force of the circulation which cannot overcome the resistance given by the coagula? Does not motion displace these coagula, and renew the bleeding? Does not wine increase for a time the force of the circulation, and again excite hemorrhage? Is it not conformable to every just reasoning, and to the experience of ages, that full diet is dangerous when vessels are opened? Do we not prohibit nourishing food and much speaking in hemorrhage from the lungs, and can nourishing diet and motion be proper in hemorrhage from the uterus? If it were possible to restore in one hour the blood which has been lost in a paroxysm of flooding, it is evident that unless the local condition of the parts was altered,

the flooding would at the end of that hour be renewed.

The diet should be light, mild, given in small quantity at a time, so as to produce little irritation*; and much fluid, which would soon fill the vessels, should be avoided. We shall do more good by avoiding every thing which can stimulate and raise action†, then by replenish-

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* Such as animal jellies, sago, toasted bread, hard biscuit, &c. These articles given at proper intervals, are sufficient to support the system without raising the action too much.

† The system, with its power of acting, may, for illustration, be compared to a man with his income. He who had formerly two hundred pounds per annum, but has now only one, must, in order to

ing the system rapidly, and throwing rich nutriment into the stomach.

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avoid bankruptcy, spend only one half of what he did before; and if he do so, although he has been obliged to live lower, yet his accounts will be square at the end of the year. The same applies to the system. When its power is reduced, the degree of its action must also be reduced; and, by carefully proportioning the one to the other, we may often conduct a patient through a very great and continued degree of feebleness. At the same time it must be observed, that as there is an income so small as not to be sufficient to procure the necessaries of life, so also may the vital energy be so much reduced as to be inadequate to the performance of those actions which are essential to our existence, and death is the result. But surely he who should attempt to prevent this by stimulating the system, would only hasten the fatal termination: does not heat overpower and destroy those parts which have been frost bit?

THE LANCET

It is, however, by no means my intention to say that we must, during the whole remaining course of gestation, (provided that that go on, the attack having been permanently cured) we should keep down the quantity of blood. I only mean that we are not rapidly to increase it. Even where the strength has been much impaired by the profusion of the discharge, or the previous state of the system, it is rather by giving food so as to prevent farther sinking, than by cramming the patient that we promote recovery; and I beg it to be remembered, that although I talk of the management of those who are much reduced, yet I am not to be understood as in any degree encouraging the practice of delivery, and allowing the patient to come into this situation of debility; but when we find her already in this state,

it is not by pouring cordials and nutriment profusely into the stomach, that we are to save her; it is by preventing farther loss, and farther weakness; it is by giving mild food, so as gradually to restore the quantity of blood and the strength; it is by avoiding the stimulating plan on the one hand, and the starving system on the other, that we are to carry her safely through the danger.

Some medicines possess a great power over the blood-vessels, and enable us in hemorrhage to cure our patient with less expense of blood than we could otherwise do. The digitalis is of this class, and may often be given with much advantage in flooding, where the pulse indicates increased vascular action, and when we do not mean to proceed directly to delivery. But when the dis-

charge has been trifling, and the pulse is slow, and perhaps feeble, the digitalis is unnecessary even from the first; and if, in the progress of the disease, the stomach have become affected, and the patient is sick, inclined to vomit, or faintish, or the pulse feeble and small, it is likewise improper.

In those cases which demand it, when the pulse is sharp and throbbing, and frequent, it may be given either in the form of powder or of tincture; half a grain of the dried leaves may be given every two hours, until the pulse be affected, and afterwards at longer intervals, so as to keep the circulation moderate. The tincture may also be employed with the same advantage. Two drams may be added to a four-ounce mixture, and a table-spoonful given eve-

ry two hours, watching the effect, and diminishing the dose when necessary. The addition of a little well-prepared hepatised ammonia sometimes makes the effect be more speedily produced, but not more than five drops should be added to each dose.

At the same time that we thus endeavour to diminish the action of the vascular system, we must also be careful to remove as far as we can every irritation. I have already said all that is necessary with regard to heat, motion, and diet. The intestinal canal must also be attended to, and accumulation within it should be carefully prevented by the regular exhibition of laxatives. A costive state is generally attended with a slow circulation in the viens belonging to the hepatic system, and of

these the uterine sinuses form a part. If the arterial system be not proportionally checked, this sluggish motion is apt, by retarding the free transmission along the mescraic veins, to excite the hemorrhage again.

Uneasiness about the bladder or rectum, or even in more distant parts, should be immediately checked, for in many cases hemorrhage is renewed by these irritations. In those cases, or where the patient is troubled with cough, or affected palpitation, or an hysterical state, much advantage may be derived from the exhibition of opiates. In many instances where an attack of flooding is brought on by some irritation affecting the lower part of the uterus in particular, or the system in general, or where the bowels are pained,

and the pulse not full nor strong, rest, cool air, and an adequate dose of tincture of opium will terminate the paroxysm, and perhaps prevent a return. This is especially the case, if only a part of the decidua have been separated, and the discharge have not been profuse. When the vascular system is full, venesection is necessary before the anodyne be administered, and the digitalis may either succeed the opiate or be omitted, according to the state of the pulse and of the stomach.

But although anodynes be in many instances, and especially in first attacks, of great benefit, yet they are not to be indiscriminately employed nor exhibited when the circumstances of the patient require delivery. In this case, whatever tends to deaden the activity of the

muscular fibre is improper, for it is to contraction alone that we look for preservation.

It may happen that we have not been called early in a first attack, and that some urgent symptom has appeared. The most frequent of these, is a feeling of faintness or complete syncope. This feeling often arises rather from an affection of the stomach than from absolute loss of blood; and in this case it is less alarming than when it follows copious hemorrhage. In either case, however, we must not be too hasty in exhibiting cordials. When the faintishness depends chiefly upon sickness at the stomach, or feeling of failure, these which may accompany even a small discharge, it will be sufficient to give a spoonful of ice cream, or a few drops of hartshorn

in cold water, and sprinkle the face with cold water. When it is more dependant on absolute loss of blood, we may find it necessary to give small quantities of wine warmed with aromatics; but our cordials even in this case must not be given with a liberal hand, nor too frequently repeated*. It is scarcely necessary for me to add, that we are also to take immediate steps by the use of the plug, &c. for restraining the dis-

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* As syncope and loss of blood have both the effect of relaxing the muscular fibre, as is well known to surgeons, it may be supposed that they should increase the flooding by diminishing the contraction of the uterus, if that have already taken place. But the contrary is the case, for, by allowing coagula to form, syncope restrains hemorrhage, and therefore ought not to be too rapidly removed.

charge. This I may observe once for all.

Complete syncope is extremely alarming to the bye standers; and, if there have been a great loss of blood, it is indeed a dangerous symptom. It must at all times be relieved, for although faintness be a natural mean of checking hemorrhage, yet absolute and prolonged syncope is hazardous. But we are not to exhibit large doses of cordials for its removal. We must keep the patient at perfect rest, in a horizontal posture, with the head low, open the windows, sprinkle the face smartly with cold vinegar, apply volatile salts to the nostrils, and give some hartshorn, or a spoonful of warm wine internally.

Universal coldness is also a symptom

which must not be allowed to go beyond a certain degree, and this degree must be greatly determined by the strength of the patient and the quantity and rapidity of the discharge. When the strength is not previously much reduced, a moderate degree of coldness is, if the hemorrhage threaten to continue, of service; but when there has been a great loss of blood, universal coldness, with pale lips, sunk eyes, and an approaching deliquium, may too often be considered as a forerunner of death. When we judge it necessary to interfere, we should apply warm cloths to the hands and feet, a bladder half filled with tepid water to the stomach, and give some hot wine and water internally.

Vomiting is another symptom which

sometimes appears. It very generally proceeds from the attendants having given more nourishment or fluid than the stomach could bear, or from a gush of blood taking place soon after the patient has had a drink. It in this case is commonly preceded by sickness and oppression, which are most distressing, and threaten syncope until relief is obtained by vomiting. Sometimes it is rather connected with an hysterical state, or with uterine irritation. If frequently repeated, it is a debilitating operation, and by displacing clots may renew hemorrhage; but sometimes it seems fortunately to excite the contraction of the uterus, and gives it a disposition to empty itself. For abating vomiting, we may apply a cloth dipped in laudanum, and camphorated spirits of wine, to the whole epigastric region; or give half a

grain or a grain of solid opium, followed by effervescing draughts. Sometimes a little infusion of capricum is of service. It should just be gently pungent. In flooding it is of importance to pay much attention to the state of the stomach, and prevent it from being loaded; on the other hand, we must not let it remain too empty, nor allow its action to sink. Small quantities of pleasant nourishment should be given frequently. We thus prevent it from losing its tone, without oppressing it, or filling the system too fast.

Hysterical affections often accompany protracted floodings, such as globus, pain in the head, feeling of suffocation, palpitation*, retching, in which nothing

* The quantity of blood lost is sometimes so great as to do irreparable injury to the heart, and ever af-

but wind is got up, &c. These are best relieved by some fetid or carminative substance conjoined with opium. The retching sometimes requires an anodyne clyster, or the application of a camphorated plaster*, to the region of the stomach. Epileptic or convulsive fits may attend flooding in two ways, as an effect of profuse evacuation, or as a concomitant disease with the flooding, but not produced by it; that is to say, by loss of

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ter to impede its action. One well marked instance of this is related by Van Swieten, in his commentary on Aph. 1304, where, for twelve years, the woman after a severe flooding, could not sit up in bed without violent palpitation and anxiety.

* This may be made by melting a little adhesive plaster, and then adding to it a large proportion of camphor previously made into a thick linament by rubbing it with olive oil.

blood. It is necessary that we distinguish betwixt these two kinds of fits. We know that when an animal is bled to death, convulsion generally terminates the scene. In some cases, I have known even venesection produce convulsion; but in such patients there was generally some symptom which previously indicated an irritable state of the head. We also find that when people have been strangled, and are beginning to recover, that if a vein be opened, they sometimes become convulsed. The fits which succeed hemorrhage are of the same kind with all these; and it is not of much practical utility to fix their nature with nosological nicety. We distinguish them by the pale visage, dead eye, and feeble pulse of the patient, we learn that the hemorrhage has been profuse; and perhaps it is not yet checked.

The rule here I apprehend to be very plain. The face is to be sprinkled with cold water, a free circulation of cool air procured, and some spiritus ammoniac aromaticus given in cinnamon water. Sometimes the addition of laudanum is of benefit. But in these, as well as in other convulsions, it is chiefly to delivery that we look for effectual security, for whatever temporary abatement of the hemorrhage, or of the fit, we may have procured, it is to delivery that we trust for permanent safety.

But there are convulsions of a different kind, which do not arise from the hemorrhage, but rather accompany it. They may perhaps appear first, and the hemorrhage succeed them; or, owing to a fright or other causes, symptoms of premature labour, attended with flood-

ing, may appear, and the convulsions may supervene many hours after the hemorrhage has stopped, and the indication of labour gone off. But it generally, though not uniformly, happens, that when the convulsions come on, the hemorrhage is renewed. Now, in these alarming cases, we have no time to lose, for the patient is exposed to a double danger. The practice must be prompt. If the convulsions have occurred early, and before much blood has been lost, we shall find that the eye is suffused, and the countenance red, the pulse firm, and often full. In those circumstances the fits may be long continued and severe. If we are to save our patient, it is by opening the jugular vein, or making a large incision in one of the veins of the arm. But when the fits have been later of coming on, or much blood has

been lost there, although it be a general rule that the disease requires speedy evacuation, yet it rests with the judgment of the practitioner to determine whether this rule has not already been acted on sufficiently by the loss from the uterine vessels; for as we know that, in ordinary cases of puerperal convulsions, bleeding does not always terminate the paroxysm, so the continuance of the fit in this case does not of itself prove that the hemorrhage has not already done all that can properly be done by evacuation.

But it is not by depletion alone that we expect to save our patient. We must empty the uterus by delivery; and, in general, in cases of convulsion complicated with hemorrhage, this is very easily done. We are not forcibly and

violently to open the os uteri, but we are to operate slowly and cautiously; and in all those cases there is a tendency to labour or dilation, which assists us.

Violent spasms in the stomach, sometimes are a prelude to an epileptic fit; and, in this case, besides attending to the general treatment demanded on account of the convulsion, we must give laudanum and carminatives; but where the convulsion does not immediately come on, it may, if the pulse and condition of the patient permit, be sometimes prevented by bleeding*. Cases of sin-

* And when this pain occurs in those who have either had no flooding or very little, I believe it ought to be a general rule to bleed, unless some very strong objection arise from the peculiar circumstances of the individual.

gle spasm, unattended with a tendency to affection of the brain, requires the immediate exhibition of laudanum, and ether, in a full dose. These spasms are not unfrequently preceded by cramp of the muscles of the leg. Sometimes uterine hemorrhage is complicated with discharge of blood from the lungs, stomach, or other organs; and most of these cases prove fatal. Besides attending to the management of the flooding, the other hemorrhagies must be treated pretty much on general principles; and the sooner that the delivery can be safely accomplished, the better it is for the patient.

OF DELIVERY.

After having made these observations on the management of flooding, and the best means of moderating its violence, of preventing a return, and of relieving those dangerous symptoms which sometimes attend it; I next proceed to speak of the method of delivering the patient when that is necessary. I have separated the detail of the medical treatment of a paroxysm from the consideration of the manual assistance, which may be required; because, however intimately connected the different parts of our plan may be in actual practice, it is useful in a work of this kind,

in order to avoid confusion, that I lay them down apart.

As some peculiarities of practice arise from the implantation of the placenta, over the os uteri, I shall confine my present remarks to those cases in which the membranes are found at the mouth of the womb, desiring it to be remembered, however, that this circumstance does not necessarily indicate that the hemorrhage does not proceed from separation of the placenta, which may be fixed very near the cervix, although it cannot be felt.

The operation of delivering the child is not difficult to describe or to perform. The hand, previously lubricated, is to be slowly and gently introduced into the vagina. The finger is to be introduced into the os uteri, and cautiously moved

so as to dilate it; or if it has already dilated a little more, two fingers may be inserted, and very slow and gentle attempts made at short intervals to distend it; and the practitioner will do well to remember that he will succeed best when he rather acts so as to stimulate the uterus, and make it dilate its mouth, than directly to distend it. On the part of the operator is demanded much tenderness, caution, firmness, and composure; on the part of the patient is to be desired patience and resolution. The operator is to keep in mind, that painful dilation is dangerous, it irritates and inflames the parts, and the woman should complain rather of the uterine pains which are excited, than of the fingers of the practitioner. More or less time will be required fully to dilate the os uteri, according to the state in which

the uterus was when the operation was begun. If the os uteri is soft and pliable, and has already by slight pains been in part distended, a quarter of an hour will often be sufficient for this purpose; but if it has scarcely been affected before by pains, and is pretty firm, though not unyielding, then an hour may be required. I speak in general terms, for no rule can be given applicable to every case. The os uteri being sufficiently dilated, the membranes are to be ruptured, the hand introduced, the child slowly turned and delivered, as in footling cases, endeavouring rather to have the child *expelled* by uterine contraction than *brought away* by the hand. Hasty extraction is dangerous, for the uterus will not contract after it *. The

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* And, therefore, if when we are turning, we do

child being removed, and the belly properly supported, and gently pressed on by an assistant, the hand should again be cautiously introduced into the womb, and the two nuckles placed on the surface of the placenta, so as to press it a little, and excite the uterus to separate it. The hand may also be gently moved in a little time, and the motion repeated at intervals, so as to excite the uterus to expel its contents; but upon no account are we to separate the placenta and extract it. This must be done by the uterus; for we have no other sign that

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not feel the uterus acting, we must move the hand a little, and not begin to deliver until we perceive that the womb is contracting. The delivery must be slow until the breach is passing, then we must be careful that the cord be not too long compressed before the rest of the child be born.

the contraction will be sufficient to save the woman from future hemorrhage. The whole process, from first to last, must be slow and deliberate, and we are never to lose sight of our object, which is to excite the expulsive power of the uterus. It is not merely to empty the uterus—it is not merely to deliver the child, that we introduce our hand: all this we may do, and leave the woman worse than if we had done nothing. The fibres must contract and press upon the vessels; and as nothing else can save the patient, it is essential that the practitioner has clear ideas of his object, and be convinced on what the security of the patient depends.

But to teach the method of delivery, and say nothing of the circumstances under which it is to be performed,

would be a most dangerous error. I have, in the beginning of this work, pointed out the effect of hemorrhage, both on the constitution and on the uterus: and I have stated that the action of gestation is always impaired by a certain loss of blood, and a tendency to expulsion brought on. But before the uterine contraction can be fully excited, or become effective, the woman may perish, or the uterus be so enfeebled as to render expulsion impossible. Whilst then we look upon the one hand to the induction of contraction, we must not on the other delay too long. We must not witness many and repeated attacks of hemorrhage; sinking the strength, bleaching the lips and tongue, producing repeated fainting fits, and bringing life itself into immediate danger.

Such delay is most inexcusable and dangerous; it may end in the sudden loss of mother and child; it may enfeeble the uterus, and render it unable afterwards to contract; or it may so ruin the constitution as to bring the patient, after a long train of sufferings, to the grave.

Are we then uniformly to deliver upon the first attack of flooding, and forcibly open the os uteri? By no means; safety is not to be found either in rashness or procrastination.

The treatment which I have pointed out, will always secure the patient until the delivery can be safely accomplished. As long as the os uteri is firm and unyielding—as long as there is no tendency to open, no attempt to establish con-

traction*, it is perfectly safe to trust to the plug, rest, and cold. Did I not know the danger of establishing positive rules, I would say, that as long as the os uteri is firm, and has no disposition to open, the patient can be in little risk if we understood the use of the plug; we may even plug the os uteri itself, which will excite contraction. But if the patient be neglected, then I grant that long before a tendency to labour or

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* In considering the effects produced by uterine hemorrhage, I have stated that its tendency is to injure gestation, and excite contraction of the uterine fibres. Pains come thus, frequently, to attend hemorrhage; but the uterus may, by loss of blood, be so enfeebled, that no benefit can be derived from them either in checking the discharge or expelling the child.

contraction be induced, she may perish. I am not, however, considering what may happen in the hands of a negligent practitioner; for, of this, there would be no end, but what ought to be the result of diligence and care.

It is evident that when the uterus has a disposition to contract, and the os uteri to open, delivery must be much safer and easier than when it is still inert, and the os uteri hard.

We may with confidence trust to the plug, until these desirable effects be produced; and in some instances we shall find that by the plug alone we may secure the patient: the contraction may become link if we have prevented much loss of blood, and expulsion may naturally take place. Who would in those

circumstances propose to turn the child and deliver it? Who would not prefer the operation of nature to that of the accoucheur? To determine in any individual case whether this shall take place, or whether delivery must be resorted to, will require deliberation on the part of the practitioner. If he have used the plug early and effectually, and the pains have become link, he has good reason to expect natural expulsion, and the labour must be conducted on the general principles of midwifery. But if the uterus have been enfeebled by loss of blood—if the pains are indefinite—if they have done little more than just open the os uteri, and have no disposition to increase, then he is not justified in expecting that expulsion shall be naturally and safely accomplished, and he ought to deliver.

Thus it appears, that by the early and effective use of the plug, by filling the vagina with a soft napkin, or with tow, we may safely and readily restrain hemorrhage, until such changes have taken place on the os uteri as to render delivery easy; and then we either interfere or trust to natural expulsion, according to the linkness and force of the contraction and state of the patient.

By this treatment we obtain all the advantage that can be derived from the operations of nature; and where these fail, are enabled to look with confidence to the aid of artificial delivery.

But it may happen that we have not had an opportunity of restraining the hemorrhage early; we may not have seen the patient until she has suffered much

from the bleeding*. In this case, we shall generally be obliged to deliver, and must upon no account delay too long; yet, if the os uteri be firm, and without disposition to open, we shall generally find that the sinking is temporary: we may still trust for some time to the plug.

Hemorrhage is naturally restrained by syncope, or a state approaching to it, and this checks the paroxysm. A repetition is checked in the same way, and syncope takes place sooner than

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* We are not to confine our attention to the quantity which has been lost, but to the effect it has produced, and there will ceteris paribus be great in proportion as the hemorrhage has been sudden.

formerly. In one or two attacks, the uterus suffers, and the os uteri becomes dilatable. Slight pains appear, or are readily excited by attempts to distend the os uteri. Syncope then will, in general, even when the plug has not been moved and the patient has been neglected, restrain hemorrhage, and prevent it from proving fatal until the os uteri has relaxed; but a little delay beyond that period will destroy the patient; and it is possible, by giving wine, and otherwise treating her injudiciously, to make hemorrhage prove fatal, even before this takes place. But although I have considered it as a general rule, that where the os uteri is firm, and unyielding, we may, notwithstanding present alarm, trust some time to the plug. Yet, I beg it to be remembered, that there may be exceptions to this

rule; for the constitution may be so delicate, and the hemorrhage so sudden, or so much increased by stimulants, as to induce a permanent effect, and make it highly desirable, that delivery should be accomplished: but such instances are rare.

These are encouraging facts; and I believe the experience of every practitioner will establish that even when the patient has not had the positive advantage of judicious management, if only direct mischief, such as giving stimulants, has been avoided, we may in every instance find a time in which delivery will be easily practicable. If we be called before this, we may, by plugging and other attentions, keep the patient safe until either effective contraction, or a state readily permitting of delivery,

takes place. If we be called late, then we have, by the result, too often to deplore the mischief of delay.

The old practitioners, not aware of the value of the plug, nor acquainted with the sound principle of physiology, had no fixed rule relating to delivery, but endeavoured to empty the uterus early*; but it was uniformly a remark, that those women died who had the os uteri firm and hard †. What is this but to declare that the rash and premature operation is fatal? It is an axiom which should be deeply engraved on the memory of the accoucheur, and which

* Vide Oulde's Treatise of Widwifery, p. 75.

† Vide the works of Mauriceau Peu, &c.

should constantly influence his conduct. Pain and suffering are the immediate consequence of the practice, whilst a repetition of the flooding after delivery, or the accession of inflammation, are the messengers of death.

It was the fatal consequence of this blind practice that suggested to M. Puzos the propriety of puncturing the membrane, and thus endeavouring to excite labour. His reasoning was ingenious—his proposal was a material improvement on the practice which then prevailed. The ease of the operation, and its occasional success, recommend it to our notice; but experience has now determined that it cannot be relied on, and that it may be dispensed with. If we use it early, and on the first attack, we do not know when the contraction

may be established; for even in a healthy uterus, when we use it on account of a deformed pelvis, it is sometimes several days before labour be produced. We cannot say what may take place in the interval. The uterus being slacker, the hemorrhage is more apt to return, and we may be obliged after all to have recourse to other means, particularly to the plug. Now we know that the plug will, without any other operation, safely restrain hemorrhage, until the os uteri be in a proper state for delivery*.

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* The ingenious M. Alphonse Le Roy seems much inclined to trust almost entirely to the plug, and supposes that the blood will act as a foreign body, and excite contraction; but this as a general doctrine must be greatly qualified. Respecting the proposal of M. Puzos, he observes, "Puzos, en

The proposal of M. Puzos then is, I apprehend, inadmissible before this time. If after this there be occasion to interfere, it is evident that we must desire some interference which can be depended on, both with respect to time and degree. This method can be relied on in neither; for we know not how long it may be of exciting contraction, nor whether it may be able to excite effective contraction after any lapse of time. If it fail, we render delivery more pain-

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conseillant assez hardiment de percer les eaux, n'avoit d'autres vues que la contraction de la matrice, qui est la suite de cette operation & la cessation de la perte, & il la conseilla même dans les cas des pertes qui arrivent avant terme. Mais un grand nombre de femmes sont peries par l'effet de cette même pratique. Leçons sur les portes de sang, p. 45.

ful, and consequently more dangerous to the mother, and bring the child into hazard. It has been observed in objection to this by the ingenious Dr. Denman*, that if turning be difficult, the flooding will be stopped by the contraction of the womb. But we know that the uterus, emptied of its water, may embrace the child so closely as to render turning, if not difficult, at least painful, and yet not be acting so briskly as to restrain flooding: nothing but brisk contraction can save a patient in flooding, if the vessels be large or numerous.

The only case then which remains to be considered, is that in which pains

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* Introduction to the Practice of Midwifery, vol. ii. p. 310.

come on, and expulsion is going forward. Now, in this case, the flooding is stopped either by the contraction or by the plug, and the membranes burst in the natural course of the labour: after which it is speedily concluded. Here, then, interference is not required; but if, after going on in a brisk way for some time, the pains abate a little, which often happens even in a natural labour, it will be proper to rupture the membrane, if we have reason to think that a slight stimulus to the uterus would renew its action; and, in determining this, the practitioner must be influenced by the previous discharge, for if the uterus have been much reduced by it in its vigour, it will be less under the influence of a stimulus; and if, upon the present diminution of the pains, the flooding is disposed to return, I should think that

we surely ought to trust rather to the hand, which can stimulate in the necessary degree, and point the process with safety, than to a method which is much more uncertain and less under our command *.

The proposal of M. Puzos then will,

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* In those cases where the placenta presents, few practitioners would think of trusting to the evacuation of the liquor amnii; they would deliver. If then delivery be considered as safe and proper in one species of flooding, it cannot be dangerous in the other; and whenever interference in the way of operation is necessary, the security afforded by the introduction of the hand will much more than compensate for any additional pain. But even in this respect, the two operations are little different, if properly performed.

if this reasoning be just, be very limited in its utility. Its simplicity gave me at first a strong partiality in its favour, and if I now have changed my opinion, I have given my reasons. It is a point of much practical consequence, and therefore I have not ventured to trust entirely to my own observation, but have endeavoured to obtain the opinion of those who were better able to judge, and for whose abilities I have much respect.

But there still remains a most important question to be answered. In those cases where the patient has been allowed to lose a great deal of blood frequently and suddenly, when the strength is gone, the pulse scarcely to be felt, the extremities cold, the lips and tongue without blood, and the eye ghastly, shall we venture to deliver the woman?

Shall we, by plugging, endeavour to prevent farther loss, and by nourishment and care recruit the strength; or empty the uterus, and then endeavour to restore the loss? We have only a choice of two dangers. The situation of the patient is most perilous, and I have in practice weighed the argument with that attention which the awful circumstances of the case required. I think myself justified in saying, that we give both the mother and child the best chance of surviving by a cautious delivery. For in these cases the uterus is almost torpid, it possesses no tonic contraction*; the very continuance of the

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* The use of the plug cannot here certainly prevent farther loss of blood, for the uterus affords no

ovum within it is more than it can bear, and on the most favourable supposition it will require many days before it could be brought into a state capable of contracting. The general system is completely exhausted, and cannot support its condition long. I have never known a woman live twenty-four hours in these circumstances.

On the other hand, I grant that it is possible the woman may die in the act of delivery, or very soon after it; but if she can be supported for two days, we may have hopes of recovery. By a very slow and cautious delivery, and by en-

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resistance, the hemorrhage continues, and after death large coagula will be found within the womb.

deavouring to excite the action of the uterus, so as to prevent discharge afterwards, we not only remove the irritation of the distended womb, but we likewise take away a receptacle of blood. During the contraction of the uterus, the blood in its sinuses will be thrown into the system, and tend to support it. Part, no doubt, will escape; but by keeping the hand in the uterus, by supporting the abdomen with a compress, and exciting the uterine action by cold application to the belly, we may prevent a great loss. When to these considerations we add the additional chance which the child has for life, our practice I apprehend will, in this very hazardous case, be decided. When the pulse becomes firmer and fuller upon the contraction of the uterus, the risk from debility is diminished.

The remarks upon the subsequent management of the patient, I shall reserve until I come to consider the treatment of flooding, after delivery; as the same rules will nearly apply to both cases, I may merely observe that the two chief dangers which we have to dread, are weakness and inflammation. This last accident, it may be thought, should seldom follow profuse flooding: but the hemorrhage sometimes is so great as although it do not immediately sink the patient, is yet sufficient permanently to disorder the action of the uterus, and render it liable to inflammation. This tendency is powerfully increased by the improper use of cordials and spirits; and in most of the cases I have met with, there has been too much reason to fear that the accession of inflammation was owing to the imprudence of

the patient in this respect. The danger arising from debility, is generally over in forty-eight hours; that arising from inflammation, generally arise about the end of that period; and when the uterus has been much enfeebled by the loss of blood, and the os uteri flabby and relaxed, we must be greatly on our guard against this disease.

OF THE

PRESENTATION OF THE PLACENTA.

At one time it was supposed that the placenta was in every instance attached originally at the fundus uteri, and that

it could only be found presenting in consequence of having been loosened and falling down. This accident was supposed to retard the birth of the child, by stopping up the passage, and also was considered as dangerous on account of the flooding which attended it. On this account Daventer* endeavoured to accelerate the delivery by tearing the placenta, or rupturing the membranes when they could be found. This was a dangerous practice, and very few survived when it was employed. Mr. Gifford and M. Levret† were among the

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* Art of Midwifery, chap. xxxi.

† Te m'engage a prouver 1° que le placenta s'implante quelquefois sur la circonference de l'orifice de la matrice; c'est-a-dire, sur celui qui du col

first who established it as a rule that the placenta did not fall down, but was from the first implanted over the os uteri : and the latter gentleman published a very concise and accurate view of the treatment to be pursued.

We know that during the eighth month of gestation, very considerable changes take place about the cervix ute-

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va joindre l'interieur de ce viscere, & non sur celui qui regarde de le vagin.

2do. Qu'en ce cas la perte de sang est *inevitable* dans les dernier tems de la grossesse.

Et 3o. Qu'il n'y a pas de voye plus sure pour remedier a cet accident urgent que de fair l'accouchement forcé. — L'art des Accouchemens, p. 343.

-ri. It is completely developed and expended; and, in the ninth month, very little distance intervenes betwixt the ovum and the lips of the os uteri. These changes cannot easily take place without a rupture of some of the connecting vessels, for either the placenta does not adopt itself to the changes in the slope of the cervix: or, which happens more frequently, some slight mechanical cause, or action of the fibres about the os uteri, produces a rupture.

This rupture may, doubtless, take place at any period of pregnancy*, but

* In some cases, hemorrhage has taken place so early as the third month. By proper means this has been stopped, and the patient has continued well

it is much more frequent in the end of the eighth and beginning of the ninth month, than at any other time. But whether the separation happens in the seventh, eighth, or ninth month, the consequent hemorrhage is always profuse, and the effects most alarming. The quantity, but especially the rapidity of the discharge, very speedily produces a tendency to faint, or even complete syncope; during which the hemorrhage ceases, and the woman may continue for several days without experiencing a renewal of it. In some instances she is able to sustain many and repeated attacks, which may take place daily for some weeks. These, however, it is

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for some months, when the flooding has returned, and the placenta been discovered to present.

evident, cannot be very severe, and the strength must originally have been great. In other instances, the woman never gets the better of the first attack. It indeed diminishes, but does not altogether leave her, and a slight exertion renews it in its former violence. But whether the patient suffer much or little in the first attack—whether she be feeble or robust, the practice must be prompt, and the most solemn call is made upon the practitioner for activity. The moment that a discharge of blood takes place, he ought to ascertain by careful examination the precise nature of the case, and must take instant steps for checking it, if nature have not already accomplished that event.

If the os uteri be firm and close in a first attack, we ought to use the plug,

which will restrain the hemorrhage, and insure the present safety of the patient. If this practice have been immediately followed, she will in general soon recover, and the length of time for which she will remain free from a second attack, will depend very much upon the care which is taken of her; but sooner or later the attack must and will return. If the uterus have been injured in its action by the first attack, this will generally be attended with slight pains, and we shall feel the os uteri more open and laxer than usual; but if the first and second discharges have been promptly checked, it may be later before those effects be perceived: but the moment that they are produced, we ought to deliver, and it should even be a rule, that where they are not likely soon to take place, and the discharge has been

profuse and rapid, and produced those effects on the system which I have already pointed out, as the consequence of dangerous hemorrhage, we must not delay until pains begin to open the os uteri. Fortunately, we are not often obliged to interfere thus early, for by careful management, and the use of the plug, we can secure our patient.

But very frequently we are not called until the patient has had one or two attacks, and been reduced to great danger. We find her with feeble pulse, ghastly countenance, frequently vomiting, and occasionally complaining of slight grinding pains.

On examination, the vagina is so filled with clotted blood, which adheres so firmly by the lymph to the uterus, that

at first we find some difficulty in discovering its mouth. We cannot here hesitate a moment what course to follow. If the patient is to be saved, it is by delivery.

The os uteri will be in part dilated; it will easily be fully opened. We, perhaps, find an edge of the placenta projecting into the vagina, perhaps the centre of the placenta presenting or protruding like a cup into the vagina; but in all those cases the rule is the same. We pass by the placenta to the membranes, rupture them*, and turn the

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* This is much safer for the child than pushing the hand through the placenta; and it is equally advantageous for the mother, and easy to the operator.

child, delivering according to the directions which I have already given.

It may be supposed, that as the treatment is so nearly the same, it is not material that we distinguish whether the placenta or membranes present. But it is convenient to make a distinction, because in those cases where the placenta does not present, it is possible in certain circumstances to cure the flooding, and carry the patient to the full time; and in those cases, which are indeed the most numerous, where this cannot be done, we always look to uterine contraction as a very great assistance, and expect that where that is greatest, the danger will be least. But when the placenta presents, we have no hope of conducting the woman safely to the full time. We have no ground to

look to contraction or labour pains as a mean of safety; for, on the contrary, if every effort to dilate the os uteri separates still more the placenta, and increases the hemorrhage*. The very circumstance which in some other cases would save the patient, will here in general increase the danger. I say in general, for those are doubtless examples where the patient has by labour been safely and without assistance delivered of the child, when part of the placenta has presented. Nay, there have been instances where the placenta has been

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* The greatest number of profuse or alarming hemorrhagies proceed from the presentation of the placenta, or the implantation of its margin over the os uteri; and, consequently the greatest number of cases requiring delivery are of this kind.

expelled first, and the child after it*. These examples are to be met with in collections of cases by practical writers; and some solitary instances are likewise to be found in different journals. It would be much to be lamented if those should ever appear without having at the same time a most solemn warning sent along with them to the accoucheur, to pay no attention to them in his practice†. I am convinced that they would do inexpressible mischief by affording

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* Even in those cases where the placenta is expelled first, the flooding may recur, and the woman die if she be not assisted. Vide La Motte. Obs. ccxxxviii, & ccxxxix.

† Most of those who have met with such cases, do not seem to count much upon them.

argument for delay, and excusing the practitioner to himself for procrastination. There is scarcely any malady so very dreadful as not to afford some examples of a cure effected by the powers of nature alone; but ought we thence to tamper with the safety of those whose lives are committed to our charge? Ought we to neglect the early and vigorous use of an approved remedy, because the patient has not in every instance perished from the negligence of the attendant. It is highly proper to publish the case of a patient who, from hernia, has had an anus formed at his groin, because it adds to our stock of knowledge. But what should we think of the surgeon who should put such a case into the hands of a young man, without, at the same time, saying, " Sir, if such a case ever happens in your practice, either you or

your patient will be very much to blame." I do not mean from this to say that we are to blame in every instance the accoucheur who has attended a case where the placenta has presented, and the patient been delivered by nature; far from it, for by the use of the plug, he may have restrained the hemorrhage, pains may have come on, and the child, descending, may have carried the plug before it; or, when he was called to his patient, he may have found her already in labour, and the process going on so well and so safely, that all interference would have been injudicious. But these instances are not to be converted into general rules, nor allowed to furnish any pretext for procrastination. They happen very seldom, and never ought to be related to a young man without an express intimation that

he is not to wave delivery when it is really required, upon any pretence whatsoever. I cannot do better than conclude these remarks with the opinion of a gentleman of great judgment and experience. "It is a practice established by high and multiplied authority, and sanctioned by success, to deliver women by art in all cases of dangerous hemorrhage, without confiding in the resources of the constitution*."

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* Vide Dr. Denman's Introduction, vol. ii. p. 298.

OF HEMORRHAGE DURING LABOUR.

HITHERTO I have been considering those hemorrhagies which occur in the three last months of gestation; and those which take place at an earlier period, I have treated of in a different work *. But it sometimes happens that hemorrhage does not appear until the patient be in labour at the full time. It may take place either in the commencement of labour, or when the os uteri is fully opened, or after the head or presenting part of the child has begun to enter the pelvis.

* Vide Observations on Abortion.

The causes which give rise to hemorrhage during labour, are nearly the same with those which produce it during gestation.

When it appears in the commencement of labour, it is seldom profuse, unless a small portion of the placenta stretch down towards the os uteri, and in this case the discharge may be very considerable, and produce all the effects which I have formerly described. We cannot always feel the placenta, but in every alarming or profuse hemorrhage, we may be pretty certain that a portion of it has been separated. Now, in this case, the safest practice is to stuff the vagina for some time, until the pains have opened to a considerable degree the os uteri, and then we can either turn or trust to the natural contraction of the

uterus, according to the effect produced by the hemorrhage on the system, or by the pains upon the hemorrhage; but if the attack have been violent, and the os uteri already relaxed and dilatable, then we may save considerable loss of blood, and much danger by immediately proceeding to delivery; and in all cases it is to be a rule of practice, not to postpone delivery when the patient has suffered considerably from the discharge, whether the os uteri be only a little open, or be fully dilated.

There is another case of hemorrhage where the quantity of the discharge is considerable, but the effect trifling. This is merely the usual shew, which attends labour, in greater quantity than common, mixed either with a dribbling of the liquor amnii, or a watery dis-

charge from about the os uteri. It proceeds from the vessels of the decidua, being of an unusual size, or from a greater portion than usual of the membrane being separated. Some women are more subject to this than others; but it does not materially influence the labour, or call for any peculiarity of practice.

Hemorrhage may also proceed from the rupture of the umbilical cord, or of some vessel on the fœtal surface of the placenta; but in those cases it is evident that the membrane must have given way before the discharge appears. This is more dangerous to the child than to the mother. It is difficult to ascertain that flooding proceeds from this cause, because we cannot easily determine that the discharge comes from within the

amnion. If it can be established, delivery would certainly be proper to prevent the child from suffering.

Hemorrhage may appear in the more advanced stage of labour, and may proceed from a portion of the placenta having been detached by some partial action of the uterine fibres, or by the pressure of a projecting part of the child. Or by the general contraction of the uterus, some large vessel going to the decidua or the placenta when it is situated low down, may be ruptured; and the uterus, from fatigue, may come to act feebly, and thus remove that pressure which restrained the hemorrhage*. This

* I do not here notice the hemorrhage which proceeds from rupture of the uterus, because in that

is especially apt to take place in preternatural presentations, where the action of the uterus has been long, but ineffectually exercised; and, in some instances, convulsions precede or accompany the hemorrhage. But whatever may have been the cause, the practice cannot be disputed. The child must be delivered either by turning or by the forceps, according to the circumstances of the labour. We can seldom expect that the labour will be naturally accomplished, for the hemorrhage enfeebles the uterus; and, on the other hand, we find that very fatal consequences may follow from delay. Dr. Osborne judiciously

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case it is complicated with another alarming accident, which would require a more extensive consideration than can here be bestowed on it.

observes, "If we wait until symptoms of danger arrive, the event will prove that, in general, we shall have already waited too long *."

OF HEMORRHAGE AFTER DELIVERY.

In natural labour, after the expulsion of the child, the uterus contracts so much as to loosen the attachment of the placenta and membranes to its surface, and afterwards to expel them. This process

* Vide Essays, &c. p. 49.

is always accompanied by the discharge of blood, but the quantity in general is small. If, however, the uterine fibres should not duly contract after the delivery of the child, so as to diminish the diameter of the vessels, and at the same time accommodate the size of the womb to the substance which still remains within it; then, provided the placenta and membranes be wholly or in part separated, the vessels which passed from the uterus to the ovum, will be open and unsupported, and will pour out blood with an impetuosity proportioned to their size and the force of the circulation. This flow will continue until syncope checks the motion, or coagula stop the mouths of the vessels.

It is evident that the cause of flooding

is the torpor of the uterus*. The fibres may become inactive, or have their tonic contraction impaired immediately after the pain which expels the child. This will more especially happen if the woman be weakly, if the labour have been tedious, and the child at last expelled suddenly by a strong, but perhaps only momentary contraction.

The hemorrhage, therefore, appears very soon after delivery, and before the placenta has come away. It is profuse, and produces the usual effects of hemor-

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* When the uterus contracts profusely after the delivery of the child, it will be felt, if the hand be applied on the abdomen, like a hard and strong mass: but when torpid, it is not so distinctly felt, for it is softer, being destitute of tonic contraction.

rhage on the system, and those effects are greater and more speedy than those which follow from hemorrhage before delivery, for the loss is instant and extensive. The first gush indeed does not produce great debility, because it consists chiefly of blood, which formerly circulated in the uterus, and is not taken directly from the general system; and the separation of the placenta not being wholly affected at once, the loss at first is more slow. But immediately after this, the effect appears in all its danger; and, it is not unusual for the woman, if not assisted, to die within ten minutes after the birth of the child *.

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* The patient may die speedily after the birth of the child, in consequence of other causes, some of which it may not be improper to notice. Sudden

This torpor of the uterus is sometimes so great and universal, that when the

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death may proceed from an organic affection of the heart, such as ossification of the valves or arteries, dilation of the cavities of the heart, or aneurism of the aorta. The effect of any sudden change in the system, in these cases, must be known to every practitioner. Whenever we suspect such disease, the most perfect rest must be observed after delivery. Should there be any inequality in the size of the two ventricles, the right being larger, for instance, than the left, then any cause capable of hurrying the circulation, may make both sides contract to their utmost; the consequence of which is, that all the blood in the right side is thrown out, but it cannot be received into the left: rupture of the pulmonary vessels must take place, and I have known many instances where the patient was immediately suffocated.

Violent spasms about the stomach or diaphragm,

hand is introduced, it passes almost up to the stomach. At other times, a cir-

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are also apt to produce sudden death. If, therefore, the patient have, during parturition, had any symptom indicating an approach of the spasm, she should have a full dose of tincture of opium immediately after delivery. In many cases, no doubt, we would have no attack, although this remedy should be omitted; but if we can so easily and safely prevent the probable occurrence of so much suffering and danger, we ought not to hesitate to use the means. This state of the stomach may also arise from sympathy with other organs besides the uterus. I have known slight pain produced by retaining the urine too long, and whenever the bladder was emptied, spasm attacked the stomach.

The brain may likewise have its action suddenly destroyed; and the patient, after complaining for a few seconds of pain in the head, dazzling of the eyes, or blindness, expires. At other times, regu-

cular band of fibres contracts spasmodi-
cally about the middle of the uterus, in-

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lar epileptic fits take place, or we have violent shaking of the muscles, the person still remaining sensible. These affections are sometimes preceded by pain in the stomach or intestines, or cramp of the leg. A vein ought to be immediately opened, and the placenta cautiously extricated: if it have not been expelled, opiates should also be employed if we have spasm about the stomach or bowels. When the spasm exists without convulsions, or when the pulse is feeble and small, bleeding is not indicated, but anodynes alone are more useful. Relief is sometimes obtained by removing coagula, which are irritating the uterus. Syncope sometimes succeeds tedious labour, or even natural labour, if the patient be delicate, and the abdomen left unsupported. The usual treatment must be employed. We must carefully observe that it do not proceed from internal flooding. In either case, if neglected, or the woman be moved much, it may prove fatal.

closing the placenta about it, whilst the rest of the fibres become relaxed. This has not inaptly been called the hour-glass uterus.

From this view, it is evident that flooding is to be prevented by preserving the action of the uterus, and avoiding whatever can increase the force of the circulation. A powerful means of keeping up the action of the womb, consists in preventing it from emptying itself too suddenly. It invariably happens, that when the child is instantaneously expelled by a single contraction, being in a manner projected from the uterus, or when the body is speedily pulled out, whenever the head is born, hemorrhage takes place; and, in a majority of instances, the uterus contracts on the placenta like a hour-glass. Delivery then is not

to be hurried, the steps of expulsion should be gradual; instead of pulling out the body of the child, we should rather retard the expulsion when it is likely to take place rapidly. Those who estimate the dexterity and skill of an accoucheur by the velocity with which he delivers the infant, ground their good opinion upon a most dangerous and reprehensible conduct; and he who adopts this practice, must meet with many untoward accidents, and produce many calamities.

Another means of exciting the uterine action, is by supporting the abdomen, and making gentle pressure on it with the hand immediately after delivery. I do not say that this practice is in every instance necessary, but it is so generally useful, that it never ought to be

omitted. The circulation is also to be moderated by the free admission of cool air, by lessening the quantity of bed-cloaths, by a state of perfect rest, and by avoiding the exhibition of stimulants. If these directions, which are few and simple, be attended to, we shall seldom meet with hemorrhage after the delivery of the child. Some women, no doubt, are peculiarly subject to this accident. They are generally of a lax fibre, easily fatigued and fluttered, and subject to hysterical affections. When a woman is known to be subject to hemorrhage, we should redouble our care; and, on the first appearance of discharge, perhaps in some instances immediately after the birth of the infant, we ought to introduce the hand into the uterus, which excites its action, and prevents flooding. We are not to meddle with

the placenta, or endeavour to extract it, our object is to support the contraction of the womb, and make it in due time expel the secundines. This gives little pain, and may be attended with most important consequences to the future health or comfort of our patient.

Whenever a woman is seized with hemorrhage after delivery, that instant we ought to take steps for exciting the contraction of the uterus, upon which alone we place our hopes of safety *.

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* It is not my intention to advise immediate interference, although the discharge be a little more than usual; but whenever it is considerable, or is affecting the pulse, or producing other perceptible effects on the system, we ought not to delay. It is a fatal error to wait until dangerous symptoms ap-

Two very powerful means are at all times within our reach. The applica-

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pear; many weeks of suffering, perhaps death itself may be the consequence. I cannot therefore agree with the ingenious M. Le Roy, in the following directions respecting hemorrhage after the birth of the child. "Quand la femme n'est pas delivrée & qu'il survient une perte, il faut attendre patiement s'il ne se manifest aucun symptôme alarmant parce que cette perte cesse quelquefois d'elle-meme. Mais quand les symptomes sont alarmans & qu'on craint pour la vie de la femme, lorsque la matrice s'engorge & se degorge alternativement, lorsq'enfin la femme se plaint d'eblouissemens dans les yeux deviennent convulsifs; que le pouls devient trop petit; que les extremities sont froid; le visage d'une paleur mortelle; que le sang traverse le lit; qu'on entend dans le ventre des grouillemens qui annoncent la resolution des forces vitales; *alors* il faut employer des moyens proper a redonner du ressort a la matrice." Leçons, p. 50.

tion of cold, and the introduction of the hand into the cavity of the uterus.

The retention of the placenta is not in general the cause of the hemorrhage, but a joint effect, together with it, of the torpor of the uterus. Our primary object then is not to extract the placenta, but to excite the uterus to brisker action. How improper and dangerous then must it be to thrust the hand into the uterus, grasp the placenta, and bring it instantly away; or to endeavour to deliver the placenta by pulling forcibly at the umbilical cord. By the first practice, we are apt to injure the uterus, and certainly cannot rely upon it for checking the hemorrhage. By the second, we either tear the cord or invert the uterus.

When we introduce the hand, we conduct it to the placenta, using the cord only as a director. We do not attempt to bring it away, but press upon it with the back of the hand, to excite the uterus to separate it; or, if it be already detached, and lying loose in the cavity of the womb, we move the hand gently to stimulate the uterus, but neither withdraw it, nor extract the placenta, until we feel the womb contracting.

The contraction of the uterus will be powerfully assisted by the application of cold. The quantity of cloaths should be lessened; but our principal object is to apply cold as a topical remedy. Cloths dipped in cold water should be laid upon the belly, or cold water may be thrown suddenly upon it. In obstinate cases it has been found useful to project it forci-

bly with a syringe, or to throw it up into the uterus itself. If we have not a syringe at hand, we may in desperate cases dip a sponge or a piece of cloth in cold water, and carry it in the hollow of the hand up to the fundus uteri. Nay, ice itself has, with happy effects, been introduced into the womb. In general, however, the external application of cold will be sufficient to save the patient. I feel confident in advising it, and can say, without reserve, that I have never known any bad consequence result from it.

In those cases where the uterus is spasmodically contracted, we must slowly and cautiously dilate the stricture, so as to get the hand into the upper cyst of the uterus; and, in doing so, we shall be greatly assisted by applying cold wa-

ter to the abdomen, or dashing water smartly on it from a brush or bunch of feathers. Afterwards, the same attention is to be paid to the contraction of the uterus as in the former case.

When it happens that part of the placenta adheres pretty firmly to the uterus, we are not to be rude in our attempts to separate it, but should remember that there can be no danger in being deliberate. It is too much the practice with some midwives, to trust more to their fingers than to the contraction of the uterine fibres; the consequence of which is, that they tear the placenta, and irritate the womb. Yet it is certain, on the other hand, that gentle attempts to separate it are sometimes necessary; but these should be so cautiously and deliberately made, as not to lacerate the pla-

centa. The finger should be very slowly and gently insinuated betwixt the uterus and the placenta, so as to overcome the adhesion, which is seldom extensive. I have known the placenta retained for four days, by an adhesion not larger than a shilling. This case proved fatal by loss of blood, which continued to take place, I understand, in variable quantity during the whole time. No attempts were made to relieve the woman, until she was dying.

We can in general easily save the patient in flooding, if we are on the spot when it happens; but if much blood have been lost before we arrive, the strength may be irreparably sunk. In those cases where great weakness has been produced, we must not only en-

deavour to excite the uterine contraction in order to prevent farther injury, but we must also husband well the power which remains. The hand is to be immediately introduced into the womb; and must be kept there, moving it gently, until the fibres contract, and until this take place, neither the hand nor the placenta should be withdrawn. Cold water is to be dashed on the abdomen, gentle pressure is to be made by the hand on the region of the uterus, and the whole belly firmly supported with a bandage, provided that can be applied without moving the patient much. But as every exertion is dangerous, motion must be avoided, and upon no account is the patient to be shifted or disturbed for some time. By imprudent attempts to raise the patient, or " to

make her more comfortable," she has sometimes suddenly expired.

The state of the stomach is to be watched, preventing as far as we can that feeling of sinking which is apt to take place in all floodings. This is to be done by keeping up the action of that important organ with soup, properly seasoned, and given in small quantity, but pretty frequently repeated. Cordials, as for instance, Madeira, diluted or pure, should be given in small doses regularly for some time to support the strength; but after recovery begins to take place, and the pulse steadily to be felt, they should be omitted or decreased, for if persisted in to the same extent, fever or inflammation may be excited. Powerful doses of opium have been given by some practitioners to

support the strength; but as I cannot see that this medicine can do more than wine or similar cordials, and as it may suspend the muscular action of the uterus, I have not been in the habit of employing it, and therefore can say nothing respecting the practice from my own observation.

We must be careful neither to give nourishment nor cordials so frequently as to load the stomach, which produces sickness and anxiety, until vomiting remedy our error. This last symptom, when moderate, is not unfavourable, for it excites more powerfully the contraction of the womb. The rising of the pulse, and the relief of the patient after it, is to be ascribed not so much to any direct power which this operation

has of invigorating the system, as to the consequent removal of sickness and oppression. If this effect do not follow from vomiting, the case is very bad.

When the hemorrhage has produced complete syncope, the state of the patient is very alarming. Yet the danger is not the same in every case, for some women faint from slighter causes than others. La Motte relates one case where the patient fainted no less than twenty times in the course of the night.

The patient is to be preserved in a state of the most perfect rest—the face is to be smartly sprinkled with cold water—a little wine artificially cooled, or what is sometimes more readily procured, a spoonful of ice-cream should be

given; for the sudden reception of any cold substance into the stomach, in these cases, rouses the system. Afterwards, warm spiced wine may be given in small quantity, and warm cloths applied to the feet. Frictions on the region of the stomach, with some stimulating embrocation, as hartshorn and spirits, may be useful. I need not add that the patient must, in these awful circumstances, be carefully watched; and that, if the expression be allowed, we must obstinately fight against death.

It was at one time the practice to prevent the patient from sleeping, or indulging that propensity to drowsiness which often follows hemorrhage*. But

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* Even some modern writers have an opinion

we can surely, at short intervals, give whatever may be necessary to the patient, without absolutely preventing sleep, or rather slumber, for the patient never sleeps profoundly. We are to attend so far to the advice, as not to allow the slumber to interfere with the administration of such cordials or nourishment as may be requisite.

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that sleep is directly injurious. "Somnus ejusmodi hemorrhagias recrudescere facit." Stoll. Prelectiones, vol. ii. p. 400.

OF HEMORRHAGE AFTER THE EXPULSION OF THE PLACENTA.

When the placenta is rashly extracted immediately after the delivery of the child, or suddenly taken away upon the accession of hemorrhage, then we find that the uterus does not contract properly, and the vessels pour out blood plentifully. This in part escapes by the vagina, but much of it remains in the cavity of the uterus, where it coagulates, and hinders the free discharge of the fluid by the vagina. But blood may still be poured out into the cavity of the womb, which becomes distended, and that often to a great size. Thus it appears that after delivery the hemorrhage

may be sometimes apparent, sometimes concealed. When it flows from the vagina, it is always discovered by the patient; but when it is confined in the uterus, it is only known by its effects: the pulse sinks—the countenance becomes pale—the strength departs—and a fainting fit precedes the fatal catastrophe.

Even when the placentà has not been rapidly extracted, hemorrhage may come on, and most frequently it, in this case, proceeds from rash exertion, or much motion. In an uncivilized state of society, we find that almost immediately after delivery, the parent is able to walk about; but women brought up in the European modes of life, cannot use the same freedom. Motion not only disorders the action of the uterus, and im-

pairs its contraction, but also powerfully excites the circulation.

The continued application of a great degree of heat, mental agitation, and the use of stimulants, may also contribute to the production or renewal of hemorrhage*.

A partial or complete inversion of the uterus, is another cause of hemorrhage, and which can only be discovered by examination. I do not propose at present to consider this accident, but only remark, that even after the uterus

* In one case I knew a most alarming hemorrhage brought on by improper attempts having been made on the patient soon after delivery.

is replaced, it may, from the injury it has sustained, be some time of regaining its tone, and thus renew the bleeding if we be not careful to excite its action.

Sometimes a partial or irregular contraction of the uterine fibres takes place, and the person is tormented by grinding pains, accompanied by repeated hemorrhage*.

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* When the abdomen has been bandaged too tightly, the parts within are injured. The patient is restless and uneasy; the pulse is frequent; she complains of pain about the uterus; and numbness in the thigh. Sometimes the lochia are obstructed; sometimes, on the contrary, pretty copious hemorrhage is produced. Relief is obtained by slackening the bandage; by giving an anodyne; and, if there be no hemorrhage, by fomenting the belly.

The retention of a small portion of the placenta, which has firmly adhered to the uterus, is also a cause of hemorrhage, and the discharge may be renewed for many days, until the portion be expelled.

It may also happen that, from some agitation of mind, or morbid state of body, the uterus may not go regularly on in its process of contraction or restoration *, to the unimpregnated state. In this case, the cavity may be filled

* This, at first, is owing to muscular contraction; afterwards, absorption forms part of the process. But if these operations shall be interrupted, or injured, then the vessels, which are still large, not being duly supported, will be very apt to pour out blood.

with blood, which forms a coagulum, and is expelled with fluid discharge. The womb may remain stationary for a considerable time, and the coagula be successfully expelled, with slight pains, and no small degree of hemorrhage. These symptoms very much resemble those produced by the retention of part of the placenta, and cannot easily be, with certainty, distinguished from them. We have, however, less of the fœtid smell, and we never observe any shreds or portion of the placenta to be expelled whilst the coagulum, if entire, has exactly the shape of the uterine cavity.

Lastly, we find that if exertion have been used before the uterus has been perfectly restored, there may be excited a draining of blood, which does not come, in general, very rapidly; but,

from its constant continuance, amounts ultimately to a considerable quantity, and impairs the health and vigour of the woman. This has been called menorrhagia lochialis.

When hemorrhage, whether external or internal, takes place, in moderate quantity, immediately after the expulsion of the placenta, and when the system does not seem to suffer materially, we may be satisfied with firmly supporting the uterus by external pressure, and applying a dry cloth closely to the orifice of the vagina. The blood thus coagulates in the uterus, which being supported by the external pressure or bandage, does not distend, and the action of its fibres is soon excited. After-pains are to be expected, but the fear of hemorrhage is removed. In some in-

stances, when we have had no external hemorrhage, and the blood has been slowly poured into the uterine cavity, little inconvenience is produced for some time. But presently, by the pressure of the womb on the neck of the bladder, a retention of urine is caused, attended with much pain in the belly. This is in general instantly removed by introducing the fingers into the vagina, and raising up the uterus. If it should not, the catheter must be employed.

But whenever hemorrhage takes place to such an extent as to endanger the patient, and produce the effect I have already mentioned, then we must interfere more actively; and I need not attempt to prove, that the only security consists in uterine contraction. This is to be excited by the application of cold,

and by the introduction of the hand, not simply to extract the coagula, but to stimulate the uterus, and rather make it expel them. Should this be tedious, it may be assisted by the injection of cold water into the womb. Afterwards we proceed upon the rules formerly stated for recovery; and we shall do well not to be in a hurry to quit our patient. In all cases of flooding after delivery, we should remain a considerable time in the house, for the hemorrhage may be renewed, and the woman be lost before we can see her.

When the hemorrhage proceeds from irregular action of the uterus, and is attended with grinding pain, a full dose of tincture of opium is of advantage, and seldom fails in relieving the patient.

If the placenta have been torn, and a portion of it remain attached to the uterus, the hemorrhage is often very obstinate. Both clotted and fluid blood will be discharged repeatedly. An offensive smell proceeds from the uterus, and at last the portion of placenta is expelled in a putrid state, after the lapse of many days. By examination, the os uteri will be found soft, open, and irregular.

If by the introduction of the finger we can feel any thing within the uterus, it should be cautiously extracted; but we are not to use force or much irritation either in our examinations or attempts to extract, lest we inflame the womb. It is more advisable to plug the vagina, and even the os uteri, so as to confine the blood, and excite the

uterine contraction. We may also inject some cold and astringent fluid for the same purpose, or throw a full stream of cold water into the uterus, from a large syringe, by way of washing out the portion of it, have become nearly detached. A gentle emetic sometimes promotes the expulsion. The bowels are to be kept open, and the strength supported by mild and nourishing diet; but we must take care on the other hand not to fill the vessels too fast. If febrile symptoms arise, the case is still more dangerous, as I will presently notice.

When the hemorrhage proceeds from an interruption of the process of restoration, our principal resource consists in exciting the contraction of the womb by the use of clysters—by friction on

the abdomen—by injecting cold and astringent fluids into the womb—by the exhibition of a gentle emetic—and by throwing cold water from a syringe upon the abdomen when the womb is expelling the coagulum. We also check the hemorrhage, and save blood, by the prompt application of the plug, and diminish the action of the vessels themselves, by allaying or removing every irritation; by avoiding the frequent use of stimulants, or attempts to fill the vessels too quickly. The feeling of sinking sickness, tendency to syncope, &c. are to be obviated by the means already pointed out.

Lastly. The menorrhagia lochialis is to be cured by rest, cool air, the use of sulphuric acid or other tonics, and bathing the pubis with cold water. If the

pulse be frequent, the exhibition of the digitalis for a short time will be of advantage. Pain in the back generally attends this disease, and is sometimes so severe as even to affect the breathing. In this case, a warm plaster applied to the back is often of service: and, if the pulse be soft, an anodyne should be administered. In slight cases, the application of cloths dipped in cold vinegar, to the back, does good.

I have formerly said that profuse hemorrhage may injure the uterus, and render its action irregular, or induce inflammation. This may be caused either by flooding before or after delivery. A fulness is felt in the belly—a pain more or less severe, sometimes excruciating, is felt in the hypogastric region, affecting the back, and extending to the

groins. The discharge dries up, or greatly diminishes in quantity—the pulse becomes frequent and sharp—the patient is restless, thirsty, and sometimes has an inclination to vomit—the strength sinks still more—the pulse becomes fluttering—she lies in a slumbering state, or becomes incoherent, and by the third day dies: or, if the symptoms have been milder, and more protracted, shiverings come on with a dull pain about the pubis, shooting pains in the belly, thirst, profuse perspiration, and emaciation. The weakness increases, and the patient dies hectic; or the pus which is formed, is discharged into the vagina, or more frequently by the rectum, and it is only after very tedious suffering that the patient can expect to recover.

If the inflammation come on in a state

of great weakness, we dare not bleed; and, indeed, can expect little good from that or any other remedy. We must be satisfied with fomenting the belly, giving emollient clysters, and throwing tepid water gently into the uterus. If the pain abate, the pulse becomes less pregnant, and a bloody discharge flows from the uterus, the patient is likely to recover. The strength is to be supported by mild nourishment, the bowels kept open, and cordials or stimulants sedulously avoided.

If the patient have not been previously much reduced, but the pulse rather firm before the accession of the inflammation; or, if it be not feeble and thready, a vein should be opened, the bowels freely evacuated, and a blister applied to the abdomen.

When suppuration is about to take place, fomentations should be applied, the feces and urine regularly evacuated, for the pressure of the uterus sometimes affords an obstacle to both, the strength supported by proper diet. When the abscess bursts, tonics should be given, and the patient removed to the country as soon as the strength will permit.

Both in the inflammatory and suppurative stages, the uterus will be felt enlarged, and its mouth open and irregular. In protracted cases, I have sometimes found the vagina much contracted and dry, having very little secretion.

Another consequence of hemorrhage is to induce a very torpid or sluggish state of the bowels, by which the feces come to be accumulated. This is apt

to produce febrile symptoms, or a train of hysterical ailments, and therefore ought to be obviated by the proper remedies.

The stomach also is affected, and the woman is plagued with dyspepsia, in different forms. This is best removed by attention to diet, by moderate exercise, by the use of chalybeate medicines, and by keeping the bowels open.

The head likewise frequently suffers, and the patient is either tormented with head-ache, or sometimes attacked with palsy. The first is relieved by gentle exercise, bark, or valerian, with a course of some mineral water, combining a chalybeate with an aperient salt. The second is often relieved after a length of

time, by applying a repetition of small blisters to the head by the use of the warm bath, and by frictions.

It rarely happens that those who have suffered from hemorrhage are able to nurse. Even where milk is secreted in tolerable quantity, suckling is apt to produce a pain in the side or hysterical symptoms; but, should these abate, nursing may be permitted.

OF THE

MANAGEMENT OF THE PLACENTA.

In natural labour, the uterus very soon after the delivery of the child, contracts so much as first of all to separate the attachment of the placenta, and afterwards to expel it. Until this be effected, the patient is always anxious; nor is she, indeed, altogether free from danger.

We have it not always in our power to prevent a tedious retention, but we can take some precautions which diminish the probability of its occurrence.

The most effectual of these consists in making the child be slowly expelled, by the contraction of the uterus alone. After the head is born, the child can be in no danger, although the body or extremities should be detained in the uterus for some time; and whenever this delay takes place, it is evident that a pause in the action of the uterus is requisite. If then we pull away the child, the womb does not contract properly, and we subject the woman to risk of hemorrhage. Even when the womb contracts briskly upon the child, and endeavours to throw it out suddenly, the action may be suspended after this quick exertion, and therefore we should retard expulsion when it promises to be too rapid.

After the child is delivered, the hand

of the nurse, or assistant, ought to be placed on the abdomen, the cord tied and divided, and the finger run gently along the cord to the os uteri, to ascertain if there be another child in the womb. If there be, the expulsion of the first placenta ought, upon no account, to be hurried.

The placenta being expelled, the abdomen is to be properly supported by a broad roller: whatever is wet and uncomfortable cautiously removed, and the woman left to repose.

But it sometimes happens that the placenta is retained for a considerable time. This depends chiefly upon two causes: the first is want of brisk contraction; the second a spasmodic stricture of the body of the uterus. In some instances, the retention may also be

produced by a morbid adhesion of the placenta to the uterus; but this is rare, and is only to be admitted as the sole cause when the woman feels pain or attempts in the uterus, to expel without success.

I have already considered the retention of the placenta, which is accompanied with torpor or want of tonic contraction. The uterus is relaxed, and the vessels bleed profusely; but, in the present case, the tonic or permanent action still exists, and the uterus is felt hard and firm, the vessels are supported, and hemorrhage does not take place. We have, however, no expulsive action or pains, and the placenta is retained from the same cause which sometimes interrupts or suspends the labour pains before the delivery of the child. This suspen-

sion may continue for several hours; nay, it has been known to last even for days. When it continues beyond the usual time, we have no date by which we can determine how much longer it will remain. Now, it is evident that, in this situation, the woman is in danger; for her only security against hemorrhage consists in the continuance of the tonic action of the uterus. But this is subject to variation; and when we have no expulsive action for a length of time, it is very apt to decrease. This cannot happen without hemorrhage, more or less profuse, being produced.

The uterus, after delivery, ought immediately to contract, and begin a new set of actions for the purpose of restoring it to the unimpregnated state. But as long as the placenta is retained, these

cannot take place; if then for several hours, or for some days, we have much blood circulating in the womb, and the proper action at the same time not going on, there is much risk of inflammation. The woman becomes feverish, the belly is painful, and the vagina becomes dry. If in these circumstances the placenta be extracted, the irritation increases the disease, though not more than the continuance of the placenta would do; even the natural expulsion cannot often save the patient.

These evils will be greatly aggravated if the placenta become putrid, which it very soon does. There have, indeed, been examples where no bad consequence has followed, and the placenta at the end of a fortnight has been expelled with safety. But there have also

been instances of large tumours being extirpated, or even on extremity amputated without hemorrhage. Would any surgeon, however, be justified in undertaking these operations without a tenaculum and ligatures. In general, we shall find that when the placenta is long retained, the patient becomes restless—the pulse quickens—she loaths her food—vomits—becomes greatly oppressed—sweats profusely—has the belly swelled and tender—with an offensive discharge from the vagina—and dies in a very few days.

If to these evils we add those proceeding from that anxiety and fear which always seize the mind of the patient, when the placenta is retained longer than usual, we shall have no difficulty in concluding that such retention,

so far from being harmless, is highly dangerous.

From a wish, however, to follow nature, and an overweaning confidence in her powers, many learned and ingenious men have made it a rule not to extract the placenta *. It has unluckily happened, that when they did not also make it a rule to remain constantly with their patient, she has been suddenly seized with flooding, and died before assistance could be procured; whilst in

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* I at one time intended to have given an historical view of the sentiments of different writers on this subject, and for this purpose had made a very considerable collection of opinions, but I found that it would carry me to a greater length than is compatible with my plan.

other instances fever and inflammation have come on, and the patient has perished with equal certainty.

Those who have had less confidence in nature, but yet have been willing to try her for a few hours, have been under the necessity of introducing the hand, after a tedious delay, and an interval of much apprehension, to the patient. It has sometimes happened, that contraction has taken place about the cervix, or os uteri, and rendered the contraction painful and difficult.

From observing these dangers and difficulties, some made it a rule to introduce the hand immediately after the delivery of the child, and extract the placenta. But this practice is to be blamed as much for rashness as the other

is for neglect; and not a few have in consequence, therefore, suffered fatally from hemorrhage.

I hope the reader will have anticipated the conclusion I mean to draw, that the placenta ought never to be permitted to remain in the uterus so long as either to produce danger, or to render it difficult or painful to extract it.

Very soon after the delivery of the child, we should tighten the cord a little, but are by no means to use any force with the intention of bringing away the placenta*. Our object is to excite gent-

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* This will either invert the uterus, or tear the cord. When the cord is torn, we are deprived of a direct conductor to the placenta; but if in a case

ly the action of the womb. We then slip the finger along the cord to the os uteri, where we will feel some portion of the placenta, or at least be satisfied that there is no spasmodic stricture. Should the expulsion not take place in half an hour, we may gently move the cord and press a little on the hypogastric region, rubbing the integuments over the uterus. A slight pain will, in general, expel the placenta; but, if not, we may, within an hour, slip the finger again to the os uteri, and press a little on that part of the placenta which is felt, and endeavour to move it downwards, but are by no means to attempt

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of this kind, we introduce the hand, the placenta is very readily distinguished by its veins and peculiar feel.

in this manner to extract. These attempts may be occasionally repeated; and, if cautiously performed, will give no uneasiness, except what may result from the consequent expulsive motion of the uterus. If, however, within an hour and an half, or two hours at farthest, from the delivery of the child, there be no prospect of expulsion, I should think it requisite to introduce the hand, and press on the placenta. This generally stimulates to contraction; but if it should not, the hand is very carefully to be insinuated betwixt the placenta and uterus, so as to detach it, and bring it into the hollow of the hand. This, however, will not often be necessary, for most frequently the presence of the hand effects both separation and expulsion. Sometimes, even the introduction of two fingers to make

gentle pressure will be sufficient. If we find that part of the placenta adheres firmly to the uterus, the union is by no means to be speedily dissolved, but the finger should be passed betwixt them very slowly and gradually, and the separation patiently effected. Rash and speedy efforts uniformly tear the placenta, and are productive of much mischief afterwards. On the other hand, it is imprudent to withdraw the hand without accomplishing the separation, the union is never so strong and complete as to make this impossible or dangerous, if we proceed cautiously; whilst, by delay, we subject the woman to risk of flooding, or other accidents, which may require the introduction of the hand at a period when it will be much more painful.

These observations apply to labour at the full time; and I can, without any reservation, say that I never have either known or heard of any bad consequence resulting from the practice recommended. It is, I believe, established by the experience of the best modern practitioners. It secures the patient from much danger, and removes a source of very great apprehension and alarm.

In premature labour, I apprehend, the practice should be a little different. The placenta is generally longer coming away, and flooding may take place. It removes much anxiety and risk to run the hand slowly along the cord into the uterus after the child is born, and to place the back of it on the surface of the placenta. In a short time we slowly move it, and press upon the placenta,

which excites the uterus to throw it off, and expel it safely. On no account are we to be rash in detaching it, for its substance is very soft; it adheres longer to the womb than the placenta does at the full time; and we are apt to tear it, and leave part behind. If the child have been long dead, the placenta is sometimes extremely soft, and attempts to separate it would infallibly tear it, and leave a portion behind. Gentle pressure, and slow motion with the hand, make the uterus itself accomplish safely what it would be dangerous for us to attempt. I beg leave to add, that in premature labour, we must never pull the cord, for it is very easily torn.

If we are called to a case where the placenta has been recently torn, and part left in the uterus, we should cer-

tainly endeavour to extract it, by introducing the hand. But there may be difficulty in distinguishing the portion, if it be small, from the coagulated blood which lines the uterus; and I do not think that we are justified in scraping the womb, or picking at every thing which resembles placenta. This will do positive harm, whilst there is a possibility that the retained portion may be safely expelled. If, however, it be readily discovered, we are not hurriedly to tear it away, but rather press on it, and use cautious endeavours to make it separate.

But if the laceration have happened some time ago, and we are consulted respecting the proper management and probable event, then, unless there be some urgent and morbid symptom, we

are not officiously to introduce the hand, for there have been examples where portions of the secundines have been spontaneously expelled with safety; and it may happen that no part has been left behind, but a false apprehension entertained.

The two principal dangers proceeding from retention of part of the placenta, are hemorrhage and fever.

The hemorrhage may proceed from the separation of part of the adhering portion, and the consequent exposure of vessels, or the whole uterus may be disordered in its action by the irritation and hemorrhage excited. We are to endeavour, with the finger, to extract the portion, but must not irritate the part. We must restrain the hemor-

rhage with the plug, and keep the patient very quiet, observing the rules formerly laid down. Throwing a stream of water into the uterus, sometimes washes out the portion which may have been adhering only by a few fibres.

The other danger proceeds from the accession of fever, with great prostration of strength, tumid belly, offensive discharge, loss of appetite, burning heat in the soles of the feet and palms of the hands, nocturnal sweats, nausea, and vomiting. These symptoms may vary in number and degree; sometimes they are protracted, and not very urgent; more frequently they are acute, and may soon prove fatal; sometimes they are complicated with hemorrhage.

By introducing the finger, the os uteri

will be felt soft and open, which is always the case when any substance is retained in the womb.

If the portion can be felt, we may succeed in hooking it out with the finger. If it cannot, it is more expedient, instead of endeavouring forcibly and violently to dilate the os uteri, which may produce dangerous irritation, to throw in an injection of tepid water*, or infusion of chamomile flowers, from a large syringe, so as to wash out the uterus,

* M. Recolin was amongst the first who advised injections to be thrown into the cavity of the uterus. Vide Mem. de l'Acad. de Chirurg. tom. iii. p. 202.—It is certainly highly desirable that the placenta should be removed; and when I forbid extraction, it is only rash and forcible dilation that I allude to.

and by a repetition of this, the portion will be brought away. If the person be tormented with nausea a gentle emetic* will be useful; and this may also excite the uterus to brisk contraction. Incessant vomiting of food or drink is sometimes an attendant on this disease, and is to be stopped, if possible, by anodynes, the application of a small blister or camphorated plaster to the epigastric region, and the proper management of the food, which should be light, and given in small portions. The bowels should be kept open, and the strength supported by a proper quantity of wine. Ripe fruits are also useful.

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* This was a principal remedy in the practice of Roderic a Castro. Vide De Morbis Mulier, p. 477.

It remains to speak of the retention of the placenta, which proceeds from stricture. This almost uniformly is produced by hurrying the delivery of the child, or promoting it to be rapidly expelled. When we introduce the finger to the os uteri, shortly after the child is born, we do not feel the placenta; and if, within half an hour, we cannot perceive it, and especially if we feel the uterus forming an irregular tumour in the belly, we may apprehend the existence of stricture.

If, within an hour, we cannot feel any part of the placenta, our suspicion will be so far confirmed as to warrant the introduction of the hand. We carry it along the cord, and will soon find that the placenta is not in the lower part

of the uterus; following the cord*, we shall be directed to a small aperture, through which the cord passes; and, by introducing the finger into this, we shall perceive the placenta lodged in a separate sac or cavity of the uterus.

It is vain to delay in these cases, for the placenta may never be expelled: the woman may become weak, and die in a few hours; but more frequently inflammation comes on, and she lives sometimes until suppuration takes place. It is as vain to expect that opiates will dissolve this spasm: they have very sel-

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* If the cord have been torn, we shall be directed to the placenta, by feeling the stricture and the aperture which leads into the cyst where the placenta is contained.

dom, indeed, any good effect. Our only safe resource consists in very slowly dilating the stricture, and endeavouring to get the hand, or at least the greatest part of it, passed betwixt the placenta and uterus, and slowly extracting it. But we are never to attempt to tear it through the stricture with the finger, for it may be lacerated; and this advice is to be still more carefully attended to in premature labour, when the placenta is soft. If we feel much difficulty in passing the fingers, we may sometimes be assisted by placing suddenly a cloth, dipped in cold water, upon that part of the abdomen which corresponds to the fundus uteri.

FINIS.

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